NATIONAL ECONOMIC
RESEARCH ASSOCIATES
ONE FRONT STREET, SUITE 2600
SAN FRANCISCO CA 94111

# EXPERT REPORT OF

# Lawrence Wu, Ph.D.

**February 22, 2008**

## I. INTRODUCTION

### A. Qualifications and Experience

1. I am an economist and Senior Vice President at National Economic Research Associates, Inc. (NERA). NERA is a firm of consulting economists that provides research and analysis in the economics of competition, regulation, and finance. I received my B.A. from Stanford University and my Ph.D. from the University of Chicago, Graduate School of Business. As a health economist, I have had a great deal of experience in assessing competition in a variety of health care markets, including health insurance, hospital services, physician services, and medical devices. My research in health economics and health care antitrust includes several published articles and my Ph.D. dissertation at the Graduate School of Business at the University of Chicago. In the spring of 1997, I also taught a graduate course in health economics at the Wagner School of Public Service at New York University.

2. More generally, as an applied microeconomist, I have analyzed the competitive implications of mergers and acquisitions, as well as a broad range of business practices (e.g., tying, exclusive contracting, and foreclosure) in many retail, manufacturing, and service



Exhibit "A"

industries. I also have provided written and oral expert testimony on numerous occasions, which include testimony in U.S. district courts and presentations before the U.S. Federal Trade Commission (FTC) and the U.S. Department of Justice (DOJ).

3. My research has appeared in the *Antitrust Bulletin*, *Antitrust Report*, *European Competition Law Review*, *Journal of Business Venturing*, and *Medical Care*, and I am the editor of two books that have been published on the economics of antitrust. My recent speeches in the area of healthcare competition include presentations at the 2005 American Bar Association (ABA) Health Law Section conference on Emerging Issues in Healthcare Law and the 2005 Antitrust in Healthcare conference sponsored by the ABA Antitrust Law and Health Law Sections and the American Health Lawyers Association. I also testified at the FTC and DOJ Hearings on Health Care and Competition Law and Policy in 2003.

4. Prior to joining NERA, I was a staff economist in the Bureau of Economics at the FTC. At the FTC, the majority of my work involved analyses of proposed mergers in the health care field. I also analyzed the competitive effects of horizontal agreements among competitors, including trade association rules and regulations. My publications, prior testimony, and selected consulting assignments are listed in my curriculum vitae, which is appended to this report as Exhibit 1.

## B. Overview of the Allegations

5. The plaintiffs are Dr. Kelley Woodruff and a medical group called Hawai`i Children's Blood and Cancer Group (HCBCG). HCBCG was founded in April 2002 by two pediatric hematology-oncologists, Dr. Woodruff and Dr. Robert W. Wilkinson. Prior to that, Dr. Woodruff and Dr. Wilkinson were employees of Kapi`olani Medical Specialists (KMS). Dr. Woodruff and Dr. Wilkinson also have staff privileges at Kapi`olani Medical Center for Women and Children (KMCWC), where they have continued to see and treat patients.

6. The defendants in this matter include Hawai`i Pacific Health (HPH), which is a health care system that serves Hawai`i with a broad network of hospitals, outpatient clinics, and physicians. This network includes KMS, which is a multispecialty physician group, and KMCWC, which is a women's and children's hospital in Honolulu.

7. The plaintiffs' central antitrust and unfair competition allegations are that HPH, KMCWC, and KMS have used KMCWC's monopoly power in the market for pediatric hematology-oncology ("hem-onc") inpatient and outpatient hospital services to prevent HCBCG's physicians from competing with KMS, which allegedly has harmed competition in the market for pediatric hem-onc physician services.[1] Specifically, the plaintiffs allege that HPH, KMCWC, and KMS attempted to exclude HCBCG from the marketplace by preventing HCBCG's physicians from receiving new patient referrals and redirecting HCBCG's existing patients to KMS-employed physicians.[2] In addition, the plaintiffs claim that the alleged anticompetitive conduct "has been substantially injurious to consumers because it has increased the cost of obtaining pediatric hem-onc care in Hawai`i," among other things.[3]

8. However, it appears that the plaintiffs are concerned only about new patient referrals. As described by the plaintiffs' economic expert, Dr. David Eisenstadt, KMCWC prevented HCBCG from competing for *new* pediatric hem-onc patients from April 2002 through February 2004 by not allowing HCBCG to participate in the KMCWC call schedule for new patients.[4] In particular, Dr. Eisenstadt focuses on the referral process that was applied to patients who arrived at KMCWC without a referral for a specific hematology-oncologist.[5]

## C. Nature and Scope of the Assignment

9. I have been asked by counsel for HPH, KMCWC, and KMS to evaluate and comment on the analyses and conclusions of the plaintiffs' economic expert, Dr. David Eisenstadt. Dr. Eisenstadt's opinions are presented and described in (a) the Report of David M. Eisenstadt, Ph.D., dated January 31, 2008, (hereinafter, "Eisenstadt Report"), (b) the deposition testimony of David Eisenstadt, dated February 5, 2008, (hereinafter, "Eisenstadt Deposition,") and (c) the

[1] See, for example, paragraphs 94, 109, and 134 in the Second Amended Complaint, filed on February 17, 2005, in the Circuit Court of the First Circuit, State of Hawai`i.

[2] See, for example, paragraph 92 in the Second Amended Complaint, filed on February 17, 2005, in the Circuit Court of the First Circuit, State of Hawai`i.

[3] See paragraph 111 in the Second Amended Complaint, filed on February 17, 2005, in the Circuit Court of the First Circuit, State of Hawai`i.

[4] A discussion of the alleged anticompetitive conduct can be found in Section XI (paragraphs 35-37) and paragraphs 39-40 of the report that was submitted by the plaintiffs' economic expert, Dr. Eisenstadt, on January 31, 2008 (hereinafter, the "Eisenstadt Report").

[5] Eisenstadt Report, paragraph 39.

Preliminary Opinions of Dr. David M. Eisenstadt, dated May 13, 2006 (hereinafter, "Dr. Eisenstadt's Preliminary Opinions").[6] Specifically, I have been asked to address the following questions:

(a) Is the alleged foreclosure or exclusion of HCBCG from the marketplace supported by and consistent with key, undisputed market facts?

(b) Is it plausible that HCBCG's ability to compete for new patients was adversely affected by a call schedule and referral process that might have affected new patients who did not already have a referral to see a specific hematology-oncologist?

(c) Could Dr. Woodruff's and Dr. Wilkinson's departure from KMS be the source of harm to competition?

(d) Does KMCWC have the ability to exclude the plaintiffs from the market by manipulating new patient referrals?

(e) What constrains KMS' ability to raise its professional fees for pediatric hem-onc physician services?

(f) Is Dr. Eisenstadt's approach to damages based on assumptions and methodologies that are appropriate and consistent with market facts?

## D. Information Relied Upon

10. The opinions in this report are based on my professional training and experience, as well as my review of (a) the Complaint that was filed in 2003 in the U.S. District Court for the District of Hawai`i, (b) the Complaint and the Second Amended Complaint that was filed in the Circuit Court of the First Circuit, State of Hawai`i, (c) the Eisenstadt Report, (d) Dr. Eisenstadt's Preliminary Opinions, (e) the transcript of the Eisenstadt Deposition, (f) data on the professional fees charged by KMS for pediatric hem-onc physician services for dates of service from January 1997 to December 2007, (g) data on the professional fees charged by HCBCG for pediatric hem-onc physician services for dates of service from April 2002 to April 2006, and (h) data on inpatient admissions and outpatient encounters at KMCWC for fiscal years 1999 to 2007. A

[6] Dr. Eisenstadt has indicated that the material in his statement of preliminary opinions dated May 13, 2006 (i.e., Dr. Eisenstadt's Preliminary Opinions) is no longer material that he will testify to at trial (other than damages). (See Eisenstadt Deposition, p. 7.)

complete list of the primary materials and information that I relied upon to prepare this declaration is attached as Exhibit 2.

11. My research and analysis are continuing, and my opinions may be supplemented or updated to reflect any subsequent production of documents, testimony or additional information provided to me. I also intend to review any additional information that may be submitted by the plaintiffs, and if necessary, submit additional reports.[7]

## II. THE POTENTIAL FORECLOSURE OF HCBCG IS NOT CONSISTENT WITH MARKET FACTS

12. At the heart of the plaintiffs' theory of competitive harm is the claim that HPH, KMCWC, and KMS have acted in ways that have prevented or impaired the ability of HCBCG's physicians to compete in the marketplace. However, the plaintiffs' theory of anticompetitive foreclosure is plausible only if the key elements of the theory are supported by and consistent with key, undisputed market facts. Among the most important of these elements is the proposition that the defendants' conduct has led to or is likely to lead to the exit of HCBCG as an independent competitor from the market. If HCBCG is not likely to exit the market, then the risk of monopolization by KMS in the market for pediatric hem-onc physician services would be low.

13. To assess whether HCBCG has been foreclosed from the market, I analyzed data on pediatric hem-onc inpatient admissions and outpatient encounters at KMCWC for fiscal years 1999 to 2007.[8] The data contain information on the number of inpatient admissions and outpatient encounters at KMCWC for each pediatric hem-onc physician.[9] The data also show the number of inpatient admissions and outpatient encounters for each physician by payor (e.g., HMSA, Kaiser, Medicare, and Medicaid).

14. Based on these data, my key findings are as follows:

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[7] The Eisenstadt Report does not contain any analyses of the economic damages or lost profits allegedly suffered by the plaintiffs. Should Dr. Eisenstadt or any other expert submit a report on damages, I may submit additional analyses and reports, if asked to do so.

[8] Outpatient encounters and inpatient admissions are assigned to a fiscal year by the date of discharge. According to KMCWC, a fiscal year ends in June of each calendar year.

[9] The pediatric hem-onc physicians who appear in the data are Drs. Sarah Fryberger, Darryl Glaser, Wade Kyono, Shigeko Lau, Desiree Medeiros, Thomas Miale, Randal Wada, Robert Wilkinson, and Kelley Woodruff.

- Contrary to the plaintiffs' allegations, Dr. Woodruff and Dr. Wilkinson continue to have thriving practices. The data show that Dr. Wilkinson and Dr. Woodruff were the top two admitters of pediatric hem-onc patients requiring an inpatient stay at KMCWC in 2006 and 2007.
- The same is generally true with respect to pediatric hem-onc outpatient encounters. In both 2006 and 2007, Dr. Wilkinson had the highest number of pediatric hem-onc outpatient encounters—774 in 2006 and 745 in 2007. Dr. Woodruff had the third highest number of outpatient encounters, with 416 in 2006 and 477 in 2007. Dr. Glaser had the second highest number of outpatient encounters, with 485 in 2006 and 526 in 2007.
- HCBCG's share of inpatient pediatric hem-onc admissions has been generally high and increasing since the group began operation in April 2002. In addition, HCBCG has maintained a high share of pediatric hem-onc outpatient encounters since it was formed. In fact, the data show that HCBCG's total share of outpatient encounters has exceeded that of KMS in every year since it began operation.

15. These facts are inconsistent with the claim that HCBCG's physicians have been foreclosed or are likely to be foreclosed from the market for pediatric hem-onc physician services. HCBCG is and has been successful in serving new and existing pediatric hem-onc patients in Hawai`i, which means that the group is and has been a new source of competition for KMS' pediatric hem-onc specialists since it was formed. Without evidence that HCBCG is likely to exit the market, there is no economic basis for the plaintiffs' claim that the alleged conduct has impaired or compromised the nature of competition in the market for pediatric hem-onc physician services. A more detailed discussion of my analysis and conclusions can be found in my declaration dated February 14, 2008, which I have attached as an appendix to this report.[10]

[10] See Appendix A (Declaration of Lawrence Wu, February 14, 2008).

## III. CONDUCT THAT ALTERS THE REFERRALS OF NEW PATIENTS WHO DID NOT HAVE A REFERRAL FOR A SPECIFIC SPECIALIST HAS NOT HARMED COMPETITION

16. The plaintiffs allege that HCBCG's ability to compete was or is likely to be compromised by a call schedule and referral process that might have affected new patients who did not already have a referral to see a specific hematology-oncologist.[11] This is not a viable theory of competitive harm even if we assume that the conduct occurred as alleged by the plaintiffs. The main reason is that the clear majority of new patients for both KMS and HCBCG are not patients who present themselves at KMCWC without the name of a specific hematology-oncologist. In other words, most of the patients seen by HCBCG would not have been affected by the alleged misconduct.

17. In addition, the alleged misconduct did not in any way prevent HCBCG from competing for direct referrals from pediatricians and physicians generally. This is important because even if it is assumed that the call schedule and referral process at KMCWC had, in fact, been altered to favor KMS' pediatric hematology-oncologists, HCBCG could have avoided the alleged misconduct by competing for referrals and by engaging in outreach and other marketing efforts that would have effectively shifted patients from the category of "hospital" or "H type" referrals (which, in theory, could have been affected by the allegedly anticompetitive call schedule and referral process) to "direct referrals" (which were not affected by the allegedly anticompetitive call schedule and referral process). Because HCBCG's ability to compete and attract new patients has not been compromised, it is implausible that the alleged misconduct could lead to antitrust injury and harm to competition.[12]

## IV. DR. WOODRUFF'S AND DR. WILKINSON'S DEPARTURE FROM KMS CANNOT BE THE SOURCE OF HARM TO COMPETITION

18. The plaintiffs have alleged that Dr. Woodruff was wrongfully terminated, thereby excluding her from the market. As stated in the initial complaint that was filed in the Circuit Court of the First Circuit, State of Hawai`i, Dr. Woodruff "cannot realistically compete with

[11] See paragraphs 39 and 40 in the Eisenstadt Report and pp. 133-134 of the Eisenstadt Deposition.

[12] For additional detail, see Appendix A (Declaration of Lawrence Wu, February 14, 2008).

Defendants' integrated monopoly power as an individual un-integrated specialist-practitioner."[13] According to the plaintiffs, the result is that the termination helped preserve KMS' "monopoly in pediatric hematology/oncology."[14] However, the termination cannot have harmed competition. Dr. Woodruff's termination and Dr. Wilkinson's subsequent resignation from KMS led to the formation of HCBCG, thereby creating a competing group of pediatric hematology-oncologists. In other words, before the termination, all of the board-certified pediatric hematology-oncologists in the private sector in Hawai`i were employed by KMS. With the formation of HCBCG after the departure of Dr. Woodruff and Dr. Wilkinson from KMS, there are now two pediatric hem-onc physician groups, not one.

19. As described above, HCBCG's share of professional fees indicate that the group has a thriving practice. In fact, as shown in Exhibit 3, in 2004 and 2005 (the two most recent fiscal years for which complete professional fee data are available), HCBCG's share of professional fees for pediatric hem-onc physician services was higher than KMS' share. The data show that HCBCG's share was 60 percent in 2004 and 56 percent in 2005. KMS' share was 40 percent in 2004 and 44 percent in 2005.

20. An analysis of data on inpatient admissions and outpatient encounters for the years 2006 and 2007 (the two most recent fiscal years for which complete data are available) yields similar results. As shown in Exhibit 4, HCBCG's share of inpatient admissions increased from 2006 to 2007, rising from 46 percent in 2006 to 53 percent in 2007. KMS' share was 54 percent in 2006 and 47 percent in 2007. With respect to outpatient encounters, HCBCG's share has been higher than KMS' share for the past two years. In 2006 and 2007, HCBCG's share of outpatient encounters was around 52 percent, while KMS' share was around 48 percent.

21. In summary, with the formation of HCBCG, patients can and do have a choice when it comes to selecting a pediatric hem-onc physician group. Furthermore, whether the analysis is based on pediatric hem-onc physician revenues, inpatient admissions, or outpatient encounters, the data demonstrate that HCBCG has been able to establish itself as a viable pediatric hem-onc physician group and that it has been able to do so quickly.

[13] See paragraph 137 in the Complaint, filed on January 11, 2002, in the Circuit Court of the First Circuit, State of Hawai`i.

[14] See paragraph 138 in the Complaint, filed on January 11, 2002, in the Circuit Court of the First Circuit, State of Hawai`i.

## V. DOES KMCWC HAVE THE ABILITY TO EXCLUDE THE PLAINTIFFS FROM THE MARKET BY MANIPULATING NEW PATIENT REFERRALS?

22. The plaintiffs claim that the relevant market is pediatric hem-onc hospital services and that KMCWC is a monopolist in that market. Based on this, the plaintiffs claim that KMCWC has the ability to exclude HCBCG from the market for pediatric hem-onc physician services.[15] The flaw in this argument lies in the presumption that KMCWC controls physicians' access to new patients.

23. First, KMCWC does not control a clear majority of new patient referrals. Instead, most new patient referrals come from pediatricians and other physicians in the community, including Dr. Dougan at Kaiser.[16] According to Dr. Eisenstadt, 66 percent of all new pediatric hem-onc patient are patients who already arrive at KMCWC with a specific pediatric hematologist-oncologist in mind.[17] By definition, these are referrals that KMCWC does not and cannot control. There are, of course, patients who arrive at KMCWC without the name of a specific pediatric hematologist-oncologist. However, an opportunity for KMCWC staff to refer patients to KMS' specialists does not imply control over new patient referrals. This is because any "control" that KMCWC might have could be undermined easily by the pediatric hematology-oncologists themselves. As noted earlier, most pediatric hem-onc patients who arrive at KMCWC—including those who do not have a referral for a specific pediatric hematology-oncologist—have seen a physician prior to their arrival at KMCWC, which gives HCBCG the opportunity to sidestep any control KMCWC might have by marketing to and networking with referring physicians directly.

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[15] Dr. Eisenstadt suggests that "KMCWC probably charges more for services where it faces less competition from other Hawai`i facilities." (See Eisenstadt Report, paragraph 25, which references an interview with John McComas, CEO of AlohaCare.) However, Dr. Eisenstadt has not done an analysis of KMCWC's prices, and as he noted in his deposition, other than his interview with Mr. McComas—which has yet to be supported by data from AlohaCare—he has no additional evidence to support the claim that KMCWC charges more for services where it faces less competition. (See Eisenstadt Deposition, p. 63 and 67.) Because Dr. Eisenstadt has not performed or attempted to perform an analysis of KMCWC's prices, I have not, as well. Should Dr. Eisenstadt conduct such an analysis, I reserve the right to comment on those analyses.

[16] Kaiser is a particularly important source of referrals. According to notes that were taken by Dr. Eisenstadt, Kaiser accounted for 13 percent of all new pediatric hem-onc patients treated at KMCWC from April 2002 through October 2005. (See the "kaiser (y, n)" column in "Copy of Kotsubo cancer patient database 5.7.06.de notes.xls.")

[17] Dr. Eisenstadt's Preliminary Opinions, p. 16, which appears to be based on the data that are in "Copy of Kotsubo cancer patient database 5.7.06.de notes.xls."

24. Second, patients ultimately determine which pediatric hematology-oncologist they see. As noted by Dr. Darryl Glaser, patients can always change doctors if, for some reason, the patient is uncomfortable with the physician to whom they are referred.[18] Moreover, the person who might be called the "primary oncologist" for a patient is not necessarily the physician who sees the patient first. The primary oncologist could be the person that the family identifies with the most or the person that spends the most time with the family.[19] In other words, even under the assumption that KMCWC actually had control over new patient referrals, patients can switch to an alternative specialist if that is their desire.

25. Third, KMCWC's alleged control over patient referrals is likely to be limited by the possibility that other hospitals in Hawai`i could begin providing pediatric hem-onc hospital services. In other words, the potential to build their practice at another hospital—Kaiser Moanalua Hospital and Queens Medical Center, for example—would be another way for HCBCG to undermine any alleged control that KMCWC may have with respect to new patient referrals.

26. Dr. Eisenstadt has discounted the importance of Kaiser as a provider of pediatric hem-onc hospital services.[20] However, according to Dr. Donna McCleary, Kaiser already treats 15 to 20 patients per year, of whom five to ten are new patients.[21] Thus, for Kaiser, increasing its capabilities in this area would simply be an expansion of the services that it already offers. For instance, Kaiser does not currently offer inpatient chemotherapy, but it has been providing outpatient chemotherapy since 1991.[22] Kaiser also has long had an interest in expanding its

[18] Glaser Deposition, pp. 206-208.

[19] Glaser Deposition, pp. 183-184.

[20] Dr. Eisenstadt also suggests that KMCWC charges "high" facility rates to Kaiser for hospital-provided pediatric hem-onc services. (See Eisenstadt Report, paragraph 25.) However, the evidence appears to be based on a deposition of Dr. McCleary and on data on charges. Charges are not transaction prices and are therefore uninformative. Moreover, Dr. McCleary did not say that the rates were too high; Dr. McCleary was responding to a question on how Kaiser would respond if prices were to become too high. Her answer was that if prices were to become "very high," then Kaiser would respond in a number of possible ways—Kaiser could pay it, do more services in-house, or begin recruiting physicians and staff. (See McCleary Deposition, p. 221.) To support his claim that Kaiser pays "high" rates, Dr. Eisenstadt notes Dr. McCleary's impression that Kaiser pays higher rates to KMCWC compared to HMSA for the same services. However, the payment of higher rates by one payor compared to other payors that paid lower rates does not mean that either (a) the payor has paid supracompetitive rates or (b) KMCWC is charging supracompetitive rates.

[21] McCleary Deposition, pp. 90-91.

[22] Dougan Deposition, pp. 47-48.

capabilities in the area of pediatric hem-onc care. As noted by Dr. Dougan, who manages the pediatric hem-onc patients who are treated at Kaiser, Kaiser is interested in getting its own board-certified hematology-oncologist, and he has recommended in the past that Kaiser establish the staff and facilities that it needs to provide inpatient chemotherapy.[23] Efforts by Kaiser to expand its capabilities in the area of pediatric hem-onc hospital services and to increase its pediatric hem-onc patient volume would limit any control over new pediatric hem-onc referrals that KMCWC may allegedly have. While it is true that, at present, Kaiser does not perform some of the services that are performed at KMCWC (e.g., inpatient chemotherapy), the line that divides what Kaiser can do and what it cannot do can shift due to Kaiser's philosophy to keep as many services as it can at Kaiser (under the direction of Dr. Dougan).[24]

27. Dr. Eisenstadt also has discounted Queens Medical Center as a potential provider of pediatric hem-onc hospital services. Yet Dr. Woodruff and Dr. Wilkinson were sufficiently interested in the medical center to begin discussions about potentially moving their pediatric hem-onc practice there. Although HCBCG did not ultimately establish a practice at Queens Medical Center, the limiting factor appears to have been space constraints, rather than anything related to the resources and capabilities of the medical center to establish a pediatric hem-onc program.[25]

## VI. WHAT CONSTRAINS KMS' ABILITY TO RAISE ITS PROFESSIONAL FEES FOR PEDIATRIC HEM-ONC PHYSICIAN SERVICES?

28. Although Dr. Eisenstadt has not studied whether the allegedly anticompetitive referral practices have had an effect on raising prices above competitive levels, he nevertheless suggests that KMCWC's call schedule and referral process may have had adverse price effects.[26] As discussed below, this is not likely.

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[23] Dougan Deposition, p. 94 and 102. Also see McCleary Deposition, p. 117.

[24] McCleary Deposition, p. 167.

[25] Hee Deposition, p. 117 and 132.

[26] Eisenstadt Deposition, pp. 138-141. Dr. Eisenstadt also has not conducted a study to show that physician fees for pediatric hem-onc services changed after Dr. Wilkinson and Dr. Woodruff left KMS in 2002. (See Eisenstadt Deposition, pp. 72-73.) In addition, Dr. Eisenstadt has not made any independent effort to assess the effect of the alleged anticompetitive conduct on the quality of care provided by KMS' or HCBCG's pediatric hematology-oncologists. (See Eisenstadt Deposition, pp. 152-153.)

29. First, KMS faces competition from HCBCG, so it is unlikely that KMS has market power over pricing in the market for pediatric hem-onc physician services. Indeed, as noted above and shown in Exhibit 3, in 2004 and 2005, HCBCG's share of pediatric hem-onc physician fees actually exceeded KMS' share (e.g., in 2005, HCBCG's share was 56 percent and KMS' share was 44 percent). Moreover, as noted above and shown in Exhibit 4, HCBCG's share of inpatient admissions was 53 percent in 2007, which was higher than KMS' share (47 percent). With respect to outpatient encounters, HCBCG's share has been higher than KMS' share for the past two years (e.g., in 2006 and 2007, HCBCG's share of outpatient encounters has been around 52 percent, and KMS' share has been around 48 percent).

30. Second, even if we accept as true the plaintiffs' claim that KMS has effectively foreclosed or is likely to foreclose HCBCG from competing in the market for pediatric hem-onc physician services in the future, it is unlikely that KMS could raise the fees that it charges for pediatric hem-onc physician services to supracompetitive levels. This is because the vast majority of KMS' professional fee revenues are based on rates that appear on statewide fee schedules that are not the product of a negotiation between KMS and third party payors (e.g., Medicaid, HMSA Quest, and Aloha Quest).[27] For these payors, KMS basically accepts the payment amount that appears on the payor's fee schedule.

31. In addition, for fee schedules that are the product of a negotiation between KMS and third party payors, there is not and has not been any special negotiation between KMS and third party payors over pediatric hem-onc physician reimbursement specifically.[28] In other words, there is no special price for pediatric hem-onc physician services and no "carve-out" that identifies a price that would single out pediatric hem-onc physician services as a special service worthy of a specific discussion or negotiation.[29] Instead, KMS' negotiations over reimbursement rates with third party payors is a broad-based discussion in which payors can discipline an attempt to raise the price on a specific service by threatening to reduce the fees paid for other

[27] Interview with Hilton Raethel.

[28] I reviewed contracts between KMS and various third party payors (e.g., Kaiser, HMSA, MDX Hawai`i, MultiPlan, University Health Alliance). Except for an arrangement with Kaiser in which KMS agreed to accept a flat monthly rate as of November 2000, none of these contracts contains carve-outs for pediatric hem-onc services. (See Bates Nos. C 1 to C 994.)

[29] The exception is Kaiser, which contracts with KMS for pediatric hem-onc services. (See Bates Nos. C 432-713.)

services and taking advantage of competitive conditions that exist in these other service areas. A separate carve-out for pediatric hem-onc physician services is not readily accomplished because many, if not most, of the physician services that are provided in this area fall into broad categories for which the reimbursement is based on the amount of work performed, and not on patient diagnosis (e.g., the category of "evaluation and management").[30] Moreover, these tend to be general categories that are used by a variety of physicians, not just pediatric hematology-oncologists. Thus, even if KMS were to somehow obtain a "monopoly share" of the pediatric hem-onc market, the dynamics of KMS' fee negotiations with third party payors for these broad categories of physician services would not change.

32. KMS' professional fees have been determined this way for many years, including the period of time when Drs. Woodruff and Wilkinson were part of KMS.[31] Thus, there is not (and there has not been) an avenue for KMS to raise its pediatric hem-onc physician fees to supracompetitive levels.

## VII. AN ANALYSIS OF DR. EISENSTADT'S APPROACH TO DAMAGES

33. As discussed above, HCBCG has had a thriving practice since it formed in 2002. In light of HCBCG's established entry as a competing group of pediatric hematology-oncologists, which is supported by data that show that Dr. Woodruff and Dr. Wilkinson continue to have a substantial share of pediatric hem-onc patients, there is no basis for the plaintiffs' claim that HPH, KMS, and KMCWC have harmed competition or are likely to harm competition in the future. For these reasons, damages to HCBCG are *zero*.

34. However, under the assumption that HPH, KMS, and KMCWC have been found to have harmed competition, then there may be damages. In this context, the plaintiffs' economic expert, Dr. Eisenstadt, has described his approach to damages, which can be summarized as follows:[32]

[30] Interview with Hilton Raethel. For example, many physician specialists will bill for their services using codes that fall in the general category of "evaluation and management." Any attempt by KMS to raise the fee for pediatric hem-onc physician services would be met with resistance from third party payors.

[31] Interview with Hilton Raethel.

[32] For additional detail on Dr. Eisenstadt's approach to damages, see the Eisenstadt Deposition and Dr. Eisenstadt's Preliminary Opinions.

(a) First, HCBCG's damages flow from the lost patient volume associated with "hospital" or "H type" referrals.[33] According to Dr. Eisenstadt, the alleged wrongdoing is that KMCWC prevented HCBCG from competing for *new* pediatric hem-onc patients from April 2002 through February 2004 by manipulating the referral process and not allowing HCBCG to participate in the KMCWC call schedule for new patients.[34]

(b) Second, because HCBCG did not lose any patient volume associated with direct referrals, HCBCG's *actual* share of direct referrals (around 50 percent, according to Dr. Eisenstadt) is a good proxy for the share of "H type" referrals that HCBCG *would have received* absent the alleged wrongdoing.[35] According to Dr. Eisenstadt, if HCBCG's actual share of "H type" referrals (which was around 10 percent) had been 50 percent, HCBCG would have seen more patients.[36]

(c) Third, Dr. Eisenstadt computes the expected revenue that was lost for each "H type" patient who was not seen by HCBCG. According to Dr. Eisenstadt, the lost total revenues are the sum of the lost revenues associated with both "active treatment" and follow-up care (i.e., "post-active treatment").

(d) Fourth, the profits that were lost by HCBCG can be computed by multiplying the lost revenues by HCBCG's profit margin (i.e., HCBCG's profits as a percentage of its revenues). According to Dr. Eisenstadt, the appropriate profit margin is 90 percent.

(e) Fifth, Dr. Eisenstadt intends to express his estimate of damages in present value terms—interest would be applied to the profits that were lost prior to trial and a discount rate would be applied to profits that would be lost in the future.

35. Below is an analysis of each of the steps described above. My comments are based mainly on Dr. Eisenstadt's Preliminary Opinions, as well as his deposition testimony. Should

[33] Eisenstadt Deposition, pp. 166-167, and Dr. Eisenstadt's Preliminary Opinions, pp. 15-16.

[34] In particular, Dr. Eisenstadt focuses on the call schedule and referral process that applied to patients who arrived at KMCWC without a referral for a specific hematology-oncologist. (See Eisenstadt Report, paragraph 39.)

[35] Dr. Eisenstadt's Preliminary Opinions, p. 16.

[36] Dr. Eisenstadt's Preliminary Opinions, p. 16.

Dr. Eisenstadt revise or add to his assessment of damages or submit a supplemental report, I reserve the right to provide additional comments in the future if appropriate.[37]

## A. Damages Stemming from the Loss of "H Type" Referrals and the Potential for Mitigation

36. The analysis of damages in this case involves a comparison of HCBCG's actual revenues and profitability against the revenues and profitability that HCBCG would have obtained had there been no alleged wrongdoing. In determining what HCBCG would have earned "but for" the alleged wrongful act, the analysis must consider the actions that HCBCG should have taken to mitigate damages. This is important because if HCBCG could have mitigated the effects of the allegedly biased call schedule and referral process, then the damages would be the difference between HCBCG's actual profits and the profits that HCBCG *should have earned* had the group taken steps to minimize the impact of the alleged wrongful act. In this case, it appears that HCBCG could have mitigated damages in at least two ways.

37. First, Dr. Woodruff and Dr. Wilkinson could have mitigated damages by taking steps to increase the number of direct referrals, that is, patients who arrive at KMCWC with a referral specifically to them. Marketing more effectively to pediatricians and other referral sources would have enabled Dr. Woodruff and Dr. Wilkinson to sidestep the alleged anticompetitive conduct and potentially avoid the adverse effects of the allegedly biased call schedule and referral process altogether, in which case damages would be zero.

38. Second, to the extent that Dr. Woodruff and Dr. Wilkinson experienced a decline in pediatric hem-onc patient volume, the physicians may have made up for it by expanding their general pediatric practices.[38] For example, if Dr. Woodruff and Dr. Wilkinson were successful in replacing their lost pediatric hem-onc patient volume with additional general pediatric patient volume, then the profits associated with the care of the additional volume of general pediatric patients would offset the lost profits associated with the lost volume of pediatric hem-onc

[37] The comments that follow are based on the discussion in Dr. Eisenstadt's Preliminary Opinions, and they are therefore my preliminary opinions, as well. I understand that Dr. Eisenstadt may prepare a more formal report on damages. (See Eisenstadt Report, paragraph 3.) If such a report is submitted, I may supplement or revise my opinions accordingly.

[38] As Dr. Eisenstadt noted in his report, Dr. Wilkinson devotes more time to his general pediatric practice now than he did prior to his resignation from KMS. (See Eisenstadt Report, paragraph 41.)

patients. In his preliminary opinions, Dr. Eisenstadt did not account for the profits that Dr. Woodruff and Dr. Wilkinson have earned or could have earned by increasing their general pediatric patient volume. Failure to account for mitigation would tend to overstate damages by exaggerating the difference between the profits that HCBCG would have earned had there been no alleged wrongdoing and the profits that HCBCG has actually earned.

### B. Estimating HCBCG's Share of "H Type" Referrals Absent the Alleged Wrongdoing: What is the Right Benchmark?

39. Dr. Eisenstadt suggests that HCBCG's share of "H type" referrals would be similar or comparable to the group's share of direct referrals. But why is HCBCG's share of direct referrals—around 50 percent, according to Dr. Eisenstadt—a good benchmark for determining HCBCG's share of "H type" referrals? Dr. Eisenstadt has not yet answered this question, so my comments are necessarily limited. However, there are a number of considerations that would suggest that HCBCG's actual share of direct referrals may not, in fact, be useful for determining HCBCG's share of "H type" referrals.

40. First, the specialists who were chosen by patients who fall in the category of direct referrals could reflect longstanding and valuable working relationships between a patient's referring physician and the pediatric hematology-oncologists at KMS and HCBCG. For example, HCBCG's relatively high share of direct referrals could reflect the group's reputation in the community. Likewise, KMS is an integrated multispecialty physician group, and KMS' relatively high share of "H type" referrals could simply reflect the working relationships that have developed between KMS' pediatric hematology-oncologists and other KMS physicians. Because the KMCWC medical staff and KMS physicians, who are in a position to direct "H type" referrals to specific specialists, are generally not private practice physicians, who appear to be the primary source of direct referrals, it is likely that the preferences of the physicians who make most of the direct referrals will not match the preferences of the physicians who make most of the "H type" referrals. If there are such differences in the physicians who make the two types of referrals, Dr. Eisenstadt's use of HCBCG's share of direct referrals as a benchmark may be inappropriate.

41. Second, Dr. Eisenstadt's analysis assumes that had there been no alleged wrongdoing as alleged by the plaintiffs, the "H type" referrals would be allocated based on a process by

which a patient would make a choice after he or she is presented with information about each group and the physicians in each group.[39] However, this may not be the mechanism that KMCWC would have adopted had there been no alleged wrongdoing. Had there been no alleged wrongdoing, it is possible that KMS, HCBCG, and KMCWC could have adopted an alternative call schedule and referral process. Thus, Dr. Eisenstadt must provide justification that he has an appropriate and realistic description of the way "H type" referrals would have been allocated between KMS and HCBCG had there been no alleged wrongdoing. Moreover, there must be justification for the assumption that HCBCG's share of direct referrals is a reliable estimate of the patient volume that HCBCG would have obtained had "H type" referrals been allocated based on a process involving an "informed choice" by patients and their families.[40]

42. Third, Dr. Eisenstadt's benchmark for HCBCG's share of "H type" referrals is based on information obtained from Dr. Woodruff. It is not appropriate to compute damages using a benchmark that is derived solely from information provided by one of the plaintiffs. This potential bias is exacerbated by the fact that Dr. Eisenstadt's proposed benchmark (i.e., HCBCG's share of direct referrals as derived from a conversation with Dr. Woodruff) cannot be properly computed if the information needed to categorize each of KMS' patients as either a direct referral or an "H type" referral is not available or unreliable. For instance, it is unclear—and perhaps unlikely—that Dr. Woodruff would even have the knowledge needed to classify KMS' patients into these categories accurately. An error in classification would have important consequences. For example, mistakenly classifying one of KMS' patients in the category of an "H type" referral would, by definition, increase HCBCG's share of direct referrals and lower HCBCG's share of "H type" referrals, which would tend to lead to an artificially higher estimate of damages.

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[39] Eisenstadt Deposition, pp. 166-167.

[40] If, as described in the Eisenstadt Report (pp. 26-27) and on pp. 166-167 of the Eisenstadt Deposition, "H type" referrals would have been allocated based on patient choice and the presentation of information about KMS, HCBCG, and the physicians in each group to patients or their responsible parties, then it may be more appropriate to conduct a highly specific damages analysis that accounts for patient-specific factors, such as the patient's medical condition and personal preferences. Due to the individualized nature of this choice, it may be inappropriate to simply assume that HCBCG's share of "H type" referrals would be similar or comparable to the group's share of direct referrals. For example, some of the "H type" referrals may be patients with conditions that Dr. Woodruff and Dr. Wilkinson infrequently treat, patients with conditions that Dr. Woodruff and Dr. Wilkinson frequently treat (e.g., thalassemia), and patients with conditions that fall within the expertise of KMS' physicians (e.g., Dr. Medeiros is an expert in hemophilia). To say that HCBCG's share of "H type" referrals would be similar to the group's share of direct referrals would ignore these individualized factors.

43. Fourth, the classification of patients as either "lost" or "not lost" by HCBCG may not, in fact, be accurate. An analysis of HCBCG's and KMS' professional fee revenues by patient suggests that either Dr. Woodruff's classifications are possibly in error or that a proper damages analysis will require a much more detailed inquiry. For example, Exhibit 5 lists the 45 patients who were identified by Dr. Woodruff as being "H type" referrals to KMS along with information related to the payments received by KMS and HCBCG for services provided to those patients. These individuals are allegedly patients of KMS' physicians who are among the patients who allegedly should have been treated by HCBCG. According to Dr. Eisenstadt, 20 of these 45 patients should have gone to HCBCG had there been no alleged wrongdoing. However, as shown in Exhibit 5, HCBCG actually billed for and received payments for services provided to 13 of the 45 "H type" patients listed. Moreover, the data show that HCBCG collected nine percent of the $232,381 in fees that were received by either KMS or HCBCG for services provided to these patients. How these 13 patients should be analyzed as part of a damages calculation is an open question, and I discuss this further in the next section.

## C. Determining HCBCG's Lost Revenues from the Loss of "H Type" Referrals

44. In his preliminary opinions, Dr. Eisenstadt describes a methodology that can be used to estimate the revenues that were lost by HCBCG. The result is the estimate that each lost patient resulted in a loss to HCBCG of $7,503.[41] Whether it is appropriate to use this estimate of lost revenues per case depends on the resolution of a number of key issues.

45. First, there is substantial variation across patients in the revenues received by HCBCG per case. Depending on the assumptions that are made regarding the patients that are likely to be lost by HCBCG, it may not be appropriate to compute damages by multiplying the number of lost patients by the simple average of HCBCG's revenues per case.[42] Exhibit 6, which is an analysis of HCBCG's revenues per case during the first 18 months of treatment (i.e., the period of "active treatment") for new patients referred to HCBCG from April 2002 through October 2004, illustrates the issue. The exhibit shows that for the 34 patients that were treated

[41] Dr. Eisenstadt estimated that HCBCG's lost total revenues would be the sum of lost "active treatment" revenues (i.e., for treatment during the first 18 months from the date of diagnosis) and lost "post-active treatment" revenues. (See Dr. Eisenstadt's Preliminary Opinions, pp. 17-18.)

[42] For example, Dr. Eisenstadt estimated that, for HCBCG, the average revenue per case during "active treatment" was around $6,639. (See Dr. Eisenstadt's Preliminary Opinions, p. 17.)

by HCBCG during this period, the average "active treatment" revenue per case was $6,317. However, the data show that more than half of HCBCG's patients—62 percent—had an "active treatment" revenue per case that was below this average.

46. Second, the wide range in revenues per case suggests that a proper damages analysis—one that is not speculative—may require a more detailed inquiry that would identify the specific patients that would have chosen HCBCG had the allegedly anticompetitive call schedule and referral process not been implemented. The reason is that even if it is assumed that Dr. Eisenstadt is correct that 20 patients would have chosen HCBCG had there been no alleged anticompetitive conduct, the lost revenues will depend on which 20 they are. Being able to determine which 20 patients would have chosen HCBCG had there been no alleged wrongdoing matters because the revenue per case is not the same for all patients. If it were true that the revenue per case was similar across patients, then it would not matter which patients would have chosen HCBCG had there been no alleged wrongdoing. However, in this case, the revenue per case varies significantly across patients, and there are good reasons for that. For example, patients have different insurance coverage, medical conditions, and treatment needs, all of which contribute to the variation in revenues per case across patients. Under these circumstances, treating each lost case as if they were identical is not appropriate.

47. With such variation across patients, use of an average revenue per case is therefore not likely to be reliable or useful for the purpose of estimating damages. A hypothetical example based on the data that are shown in Exhibit 6 illustrates why use of an average revenue per case can be unreliable. Suppose, for instance, that a physician group claims that it would have treated 14 of the 34 patients that are depicted in Exhibit 6 had there been no alleged wrongdoing. In other words, suppose the physician group claims that it should be compensated for the loss of 14 of the 34 patients shown in Exhibit 6. If the lost revenues to the group are calculated by multiplying the average revenue per case ($6,317) by 14 patients, then the lost revenue to the group would be estimated to be $88,438. However, this could overestimate or underestimate the true revenues that were lost. For instance, suppose that, absent the alleged wrongdoing, the physician group would have seen the 14 patients who had the lowest revenues per case. If this were the case, the physician group would have lost only $31,331 in total revenues. Thus, use of the average revenue per case would greatly *overstate* the true loss in revenue to the group. In

contrast, suppose that, absent the alleged wrongdoing, the physician group would have seen the 14 patients who had the highest revenues per case. If this were the case, the physician group would have lost $154,400. Here, use of the average revenue per case would *understate* the true loss in revenue to the group. Either way, as this hypothetical example shows, the error that can result by applying an average revenue per case could be significant.

48. In this case, the identities of the specific patients who would have chosen HCBCG in the "but for" world matters for yet another reason. As noted earlier, Dr. Woodruff or Dr. Wilkinson received payments for 13 of the 45 "H type" patients that could have chosen HCBCG had there been no alleged anticompetitive conduct. If it is assumed that Dr. Eisenstadt is correct that 20 patients would have chosen HCBCG had there been no alleged anticompetitive conduct, and these 13 patients are among the 20 patients, then the lost revenues would be the revenues that HCBCG would have earned less the payments that HCBCG already received for the treatment of these patients.

49. Third, Dr. Eisenstadt computed the loss in revenues for HCBCG for the period April 2002 through March 2011. Whether damages are likely to extend to March 2011 (which, according to Dr. Eisenstadt, is the date of Dr. Wilkinson's anticipated retirement) is an assumption that also must be justified. As my comments are based only on Dr. Eisenstadt's preliminary opinions, I may comment further on this point in the future if appropriate.

## D. Determining HCBCG's Lost Profits from the Loss of H Type Referrals

50. To obtain an estimate of lost profits, Dr. Eisenstadt proposes to apply a 90 percent profit margin to HCBCG's estimated lost revenues. As stated by Dr. Eisenstadt, the 90 percent factor is intended to represent the fraction of lost total revenues which are profit.[43] Whether the fraction is 90 percent or some other number is an empirical question, though, and without supporting evidence from Dr. Eisenstadt, I cannot comment further.

51. However, the computation of lost profits is likely to be more complicated. For example, Dr. Eisenstadt suggests that absent the alleged wrongdoing, HCBCG's pediatric hem-onc patient volume would have increased by 20 patients in the three-and-a-half year period from

[43] Dr. Eisenstadt's Preliminary Opinions, p. 18.

April 2002 to October 2005.[44] To put this into perspective, HCBCG accepted 53 new patients during this period (according to the "Kotsubo database" that was analyzed by Dr. Eisenstadt).[45] Thus, the additional 20 patients would represent a 38 percent increase above HCBCG's historical new patient volume in this three-and-a-half year period. To handle such an increase in patient volume, it is possible that HCBCG would have had higher overhead costs. This is because with an increase in patient volume, it is possible that HCBCG would have had to hire additional administrative staff and other office personnel. In other words, by not accounting properly for all of the costs that HCBCG would have incurred to handle the additional patient volume, Dr. Eisenstadt's methodology would overstate HCBCG's profitability in the "but for" world. This would have the effect of overstating damages.

52. A more appropriate measure of HCBCG's incremental profit margin would be based on revenues less *all* of the costs that HCBCG would have incurred to accommodate the substantial increase in patient volume that HCBCG would have obtained absent the alleged wrongdoing. This, too, is a fact-specific determination, and I may provide additional comments if and when additional data and supporting documents are provided.

### E. Converting Damages to Present Value Terms

53. Dr. Eisenstadt indicates that he will present an estimate of damages that applies an interest rate to revenues that have been lost in the past and a discount rate to revenues that are likely to be lost in the future as a result of the alleged wrongdoing. The specific interest rate and discount rate that should be applied may or may not be controversial, and I reserve the right to comment further on this point in the future, if appropriate.

## VIII. CONCLUSIONS

54. Based on the research I have done to date, my conclusions with respect to the questions that I was asked to address in this report are as follows:

55. First, the market facts do not suggest that HCBCG has been or is likely to be foreclosed from the market for pediatric hem-onc physician services. HCBCG's share of

[44] Dr. Eisenstadt's Preliminary Opinions, p.16.

[45] The database analyzed by Dr. Eisenstadt is "Copy of Kotsubo cancer patient database 5.7.06.de notes.xls."

pediatric hem-onc professional fees, inpatient admissions, and outpatient encounters show that the plaintiffs have a thriving practice.

56. Second, it is implausible that the allegedly anticompetitive call schedule and referral process could have adversely affected competition and HCBCG's ability to compete for new patients. The choice of physician for the clear majority of pediatric hem-onc patients would not have been affected by the call schedule and referral process, and the call schedule and referral process would not have prevented HCBCG from competing more vigorously for direct patient referrals.

57. Third, Dr. Woodruff's and Dr. Wilkinson's departure from KMS, which led to the formation of HCBCG—a second competing pediatric hem-onc physician group—could only have enhanced competition.

58. Fourth, KMCWC does not have the ability to exclude the HCBCG from the market by manipulating patient referrals because the hospital does not control patient referrals for the clear majority of pediatric hem-onc patients. In addition, patients can always switch doctors if they wish.

59. Fifth, KMS does not have the ability to raise its professional fees for pediatric hem-onc physician services. This is due to the way KMS and third party payors negotiate KMS' professional services contracts. Simply put, even if KMS were to have a "monopoly share" of pediatric hem-onc physician services, the negotiating dynamics between KMS and third party payors would not change.

60. Sixth, Dr. Eisenstadt's approach to damages relies on a number of important assumptions and methodologies that require empirical testing. In addition, there are questions regarding mitigation, the benchmark that should be applied to assess HCBCG's share of "H type" referrals in the "but for" world, the use of averages in assessing lost revenues per case, and the overhead costs that HCBCG's costs may have incurred if they had higher patient volumes. If

Dr. Eisenstadt does not address these factors properly, his analysis is likely to lead to an overestimate of damages.

Dated: February 22, 2008, San Francisco, California.

Lawrence Wu, Ph.D.

**EXHIBIT 1**

NERA
Economic Consulting

**Lawrence Wu**
Senior Vice President

National Economic Research Associates, Inc.
1 Front St., Suite 2600
San Francisco, California 94111
+1 415 291 1000 Fax +1 415 291 1020
Direct dial: +1 415 291 1007
lawrence.wu@nera.com
www.nera.com

# LAWRENCE WU
## SENIOR VICE PRESIDENT

Dr. Wu specializes in the economics of antitrust and competition policy. He has testified in US district courts and submitted analyses to the US Federal Trade Commission (FTC), US Department of Justice (DOJ), European Commission, Competition Tribunal of South Africa, and Brazil's competition authority (CADE).

Dr. Wu's antitrust practice focuses on the analysis of mergers, price fixing, and other competitive issues in a variety of retail, manufacturing, and service industries. He is particularly experienced in assessing competition in a wide range of health care markets, including hospital services, health insurance, physician services, and various medical technologies. His expertise includes the application of econometric and statistical methods, the design and economic analysis of consumer survey data, and merger simulation.

Dr. Wu's recent work includes the analysis of proposed mergers in a variety of industries from pipelay services to LED lighting systems. He has also been retained as an economic expert in antitrust litigation to assess issues related to liability and damages. For example, he has computed damages in alleged price fixing matters and has assessed the competitive implications of exclusive contracts, tying, bundling, and vertical integration.

In the area of intellectual property, he has written and consulted on issues involving patent pools. In addition, he has given a number of presentations on standard setting and on the use of benchmarks in a reasonable royalty analysis.

Dr. Wu has studied a wide range of industries, including ambulance services, bakeware, cookware, blood testing instruments and supplies, bronze memorials and other commemorative products, cardiac medical devices, carton sealing tape, clinical diagnostic tests and testing equipment, compact discs, diagnostic imaging equipment, dialysis services, DRAM (dynamic random access memory) chips and modules, ferrous scrap, glass beverageware, health insurance, hospital services, lamps and lighting, mattresses, outdoor advertising, patient monitoring equipment, orthopedic products, physician services, pipelay services, printers and printing supplies, ski resorts, and smokeless tobacco.

He is frequently invited to speak at conferences and seminars, and his recent presentations have been on topics such as the competitive importance of products in the R&D pipeline, joint ventures, European merger enforcement, retrospective merger reviews, prescription drug reimportation, and new developments in health care antitrust. Dr. Wu is the editor of two books on the economics of antitrust and has published articles in *The Antitrust Bulletin*, *Antitrust Report*, *European Competition Law Review*, *Journal of Business Venturing*, and *Medical Care*. His research interests are in the areas of industrial organization, health economics, and antitrust.

Dr. Wu earned his PhD in economics from the University of Chicago Graduate School of Business and his BA in economics from Stanford University. Prior to joining NERA, he was a staff economist in the FTC's Bureau of Economics.

## Education

**University of Chicago, Graduate School of Business**
Ph.D., Economics, 1992

**Stanford University**
B.A., Economics, 1986

## Professional Experience

| | |
|---|---|
| | **NERA Economic Consulting** |
| 1996- | Senior Vice President (current position) |
| | **Federal Trade Commission, Bureau of Economics, Division of Antitrust** |
| 1992-1996 | Economist |
| | **New York University, Robert F. Wagner Graduate School of Public Service** |
| Spring 1997 | Adjunct Assistant Professor of Public Health Administration |
| | **University of Chicago, Department of Economics** |
| Fall 1991 | Lecturer |
| | **American Hospital Association, Division of Economic Analysis** |
| 1990-1991 | Research Analyst |
| | **Federal Reserve Bank of New York, Banking Studies Department** |
| 1986-1987 | Research Assistant |

## Honors and Professional Activities

Section of Antitrust Law, American Bar Association:

Member, Competitiveness Task Force, 2007

Vice Chair, Economics Committee, 2003-2006

Member, Exemptions and Immunities Task Force, 2003-2004

Member, American Economic Association

Member, Western Economic Association

Member, Section of Antitrust Law, American Bar Association

Member, The Antitrust and Unfair Competition Law Section, State Bar of California

Federal Trade Commission Award for Meritorious Service, March 1996

Great American Cookie Company Grant and Fellowship, International Franchise Association Educational Foundation, 1990

University of Chicago Fellowship, 1987-1989

## Expert Reports and Testimony

Declarations on behalf of the defendants in ***The City of New York v. Group Health Incorporated, HIP Foundation, Inc., and Health Insurance Plan of Greater New York,*** United States District Court for the Southern District of New York (Case No. 06 Civ. 13122 (KMK) (RME)). Declarations: March 6, 2007 and November 9, 2007.

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Expert report on behalf of Business Venture Investments No. 790 (PTY) Limited and Afrox Healthcare Limited. Report was submitted to the Competition Tribunal of South Africa in connection with Case No. 76/LM/DEC 03. Report: July 1, 2004.

Expert report on behalf of Nestlé in connection with Nestlé's proposed acquisition of Chocolates Garoto, S.A. Report was submitted to Brazil's competition authority, CADE (Conselho Administrativo de Defesa Econômica), in connection with the agency's review of the proposed transaction. Report: December 3, 2003.

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Deposition and trial testimony on behalf of LifePath, Inc. in connection with *LifePath, Inc. v. Agency for Health Care Administration and Hernando-Pasco Hospice, Inc.,* Case Nos. 00-3203 *et seq.*, State of Florida, Division of Administrative Hearings. Deposition and trial testimony: June 29 and August 7, 2002.

Deposition and trial testimony and expert report on behalf of the defendants in the matter of *Federal Trade Commission v. Swedish Match North America, Inc., et al.,* United States District Court for the District of Columbia (No. 1:00-CV-001501 TFH). Reports: July 28 and August 15, 2000. Deposition and trial testimony: August 16 and September 7-8, 2000.

Expert report on behalf of Aetna U.S. Healthcare in connection with Aetna U.S. Healthcare's proposed acquisition of Prudential Health Care Plan, Inc. before the Department of Insurance of the State of Georgia. Report: May 19, 1999.

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Deposition and trial testimony and expert report on behalf of the plaintiff in the matter of *Federal Trade Commission and State of Missouri v. Tenet Healthcare Corporation and Poplar Bluff Physician's Group, Inc.*, United States District Court for the Eastern District of Missouri (No. 4:98-CV-709 CDP). Report: May 20, 1998. Deposition: June 2, 3, and 5, 1998. Trial: June 23 and 26, 1998.

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Robert Skitol and Lawrence Wu, "A Transatlantic Swim through Patent Pools: Keeping Antitrust Sharks at Bay," in *On the Merits: Current Issues in Competition Law and Policy, Liber Amicorum Peter Plompen*, ed. Paul Lugard and Leigh Hancher (Antwerpen-Oxford: Intersentia, 2005), pp. 103-116.

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Paul Hofer, Patrick Smith, and Lawrence Wu, "Quantitative Techniques in Competition Policy Analysis," *The Asia Pacific Antitrust & Trade Review 2005*, Global Competition Review, April 2005, pp. 13-16.

Lawrence Wu and Rika Mortimer, "Competition Policy Challenges in Innovative Health Care Markets," prepared for the 6th Annual Conference on Emerging Issues in Healthcare Law sponsored by the ABA Health Law Section, Lake Buena Vista, Florida, February 2005.

Lawrence Wu and Rika Mortimer, "Competition and Innovation in Health Care Markets and their Implications for Antitrust Enforcement," *Antitrust Health Care Chronicle*, Vol. 18, No. 4, Winter 2005, p. 3, 12-16.

Paul Hofer, Mark Williams, and Lawrence Wu, "Principles of Competition Policy Economics," *The Asia Pacific Antitrust Review 2004*, Global Competition Review, April 2004, pp. 4-7.

*Economics of Antitrust: New Issues, Questions, and Insights*, ed. Lawrence Wu (White Plains, NY: NERA Economic Consulting, 2004).

Lawrence Wu, "Two Methods of Determining Elasticities of Demand and Their Use in Merger Simulation," in *Economics of Antitrust: New Issues, Questions, and Insights*, ed. Lawrence Wu (White Plains, NY: NERA Economic Consulting, 2004), pp. 21-33. (Previously published in *Antitrust Insights*, NERA Economic Consulting, January/February 2003.)

Lawrence Wu, Paul Hofer, and Mark Williams, "The Increasing Use of Empirical Methods in European Merger Enforcement: Lessons from the Past and a Look Ahead," in *Economics of Antitrust: New Issues, Questions, and Insights*, ed. Lawrence Wu (White Plains, NY: NERA Economic Consulting, 2004), pp. 71-83. (Originally prepared for the UCLA Law First Annual Institute on U.S. and E.U. Antitrust Aspects of Mergers and Acquisitions, Los Angeles, California, February 28, 2004.)

Lawrence Wu, "Economic Aspects of an Analysis of Hospital Post-Merger Pricing and Conduct," prepared for the 2003 Antitrust in Healthcare Conference sponsored by the ABA Health Law Section and Section of Antitrust Law and the American Health Lawyers Association, Washington, D.C., May 15-16, 2003.

Lawrence Wu, "The Economic Analysis of Mergers After *Daubert*," *The Economics Committee Newsletter*, American Bar Association Section of Antitrust Law, Economics Committee, Vol. 1, No. 1, Spring, 2001, p. 16-20.

Robert E. Bloch, Scott P. Perlman, and Lawrence Wu, "A New and Uncertain Future for Managed Care Mergers: An Antitrust Analysis of the Aetna/Prudential Merger," *Antitrust Report*, October 1999, pp. 37-61.

Thomas R. McCarthy, Scott J. Thomas, and Lawrence Wu, "Efficiencies Analysis in Hospital Mergers," in *Antitrust and Healthcare Insights into Analysis and Enforcement*, American Bar Association, 1999, pp. 119-149. (A similar version appeared in the *Antitrust Health Care Chronicle*, Vol. 13, No. 1, Winter 1999, pp. 2-11.)

Lawrence Wu, "The Pricing of a Brand Name Product: Franchising in the Motel Services Industry," *Journal of Business Venturing*, Vol. 14, No. 1, January 1999, pp. 87-102.

Lawrence Wu, "The Evidence Is In: A Review of the Market Definition Debate in Hospital Merger Cases," *Antitrust Report*, November 1998, pp. 23-41.

Simon Baker and Lawrence Wu, "Applying the Market Definition Guidelines of the European Commission," *European Competition Law Review*, Vol. 19, No. 5, June 1998, pp. 273-280.

Lawrence Wu and De-Min Wu, "Measuring the Degree of Interindustry Competition in U.S. v. Continental Can," *The Antitrust Bulletin*, Vol. XLII, No. 1, Spring 1997, pp. 51-84.

David Dranove, William D. White, and Lawrence Wu, "Segmentation in Local Hospital Markets," *Medical Care*, Vol. 31, No. 1, January, 1993, pp. 52-64.

## Invited Presentations

"Fundamentals of Health Care Antitrust Economics." Faculty presenter on the program, which was sponsored by the American Bar Association, Antitrust Section, Economics and Health Care and Pharmaceuticals Committees, Washington, DC, November 8, 2007.

"Mock Trial on Patent Damages." Participant in a mock trial on reasonable royalty damages at an intellectual property seminar for Chinese judges sponsored by Stanford Law School, Stanford Program in Law, Science & Technology, August 16, 2007.

"Trial Preparation: Not Just for Outside Counsel." Speech presented at the 54th Annual Spring Meeting of the ABA Section of Antitrust Law, Washington, DC, March 29, 2006.

"Patent Pools and Standard Setting – an Economic Perspective." Speech presented before the Antitrust Law Section of the Minnesota State Bar Association, Minneapolis, Minnesota, October 25, 2005.

"Hot Topics in Healthcare Antitrust: Market Definition." Speech presented at the 2005 Antitrust in Healthcare conference, co-sponsored by the ABA Antitrust Law and Health Law Sections and the American Health Lawyers Association, Washington, DC, May 12, 2005.

"Protecting Competition or Protecting Competitors? Antitrust Issues for Plans and Providers." Speech presented at the 2005 Law Conference on Health Insurance Plans: Bridging the Gap between Providers and Insurers, co-sponsored by America's Health Insurance Plans and the American Health Lawyers Association, Colorado Springs, Colorado, May 3-4, 2005.

"Is Competition the Answer: Did DOJ and FTC Get it Right, or Does Regulation Still Serve its Purpose in Healthcare?" Participant on a panel discussion at the 6th Annual Conference on Emerging Issues in Healthcare Law sponsored by the ABA Health Law Section, Lake Buena Vista, Florida, February 24, 2005.

"The Ninth Circuit's Recent Decision in *Dagher v. Saudi Refining Inc.*" Participant on a panel discussion on joint ventures sponsored by the American Bar Association, Antitrust Section, Sherman Act Section 1 and Section 2 Committees, Washington, DC, October 26, 2004.

"Forces Shaping the Next Era in Health Care and their Economic Impact on Hospitals." Invited keynote speaker at the Mercer Human Resource Consulting and Marsh USA, Inc. Fifth Annual Hospital Management Seminar, Portland, Oregon, October 4, 2004.

"Antitrust and Health Care: Assessing Issues for California and the United States." Invited speaker at a conference sponsored by the Nicholas C. Petris Center on Health Care Markets and Consumer Welfare at the University of California, Berkeley, California, April 30 – May 1, 2004.

"An Economic Perspective on Business Practices with 'Billion Dollar' Price Tags." Speech presented at the Antitrust Law Committee Forum, "Antitrust and Distribution: How to Avoid the Billion Dollar Judgment," at the Spring Meeting of the ABA Section of Business Law, Seattle, Washington, April 3, 2004.

"The Increasing Use of Empirical Methods in European Merger Enforcement: Lessons from the Past and a Look Ahead." Speech presented at the UCLA Law First Annual Institute on U.S. and E.U. Antitrust Aspects of Mergers and Acquisitions, Los Angeles, California, February 28, 2004.

"Rx/OTC Switches and Prescription Drug Reimportation: Consequences for Consumers." Speech presented at the New York State Bar Association Annual Meeting, Food, Drug and Cosmetic Law Section, New York, New York, January 29, 2004.

"Forces Shaping the Next Big Idea in Health Care." Speech presented at the Marsh Healthcare Forum, Colorado Springs, Colorado, September 9, 2003.

"Economic Perspectives on Retrospective Reviews of Healthcare Mergers." Speech presented at the Antitrust in Healthcare Conference sponsored by the ABA Health Law Section and Section of Antitrust Law and the American Health Lawyers Association, Washington, D.C., May 15-16, 2003.

"The Sixth Circuit's Recent Decision in *Conwood Co., L.P. et al. v. United States Tobacco Co., et al.*" Participant on a panel discussion sponsored by the American Bar Association, Antitrust Section, Sherman Act Section 2 Committee, July 17, 2002.

"Getting a Fix on *FTC v. Libbey, Inc., et al.*" Speech presented at a seminar sponsored by the Antitrust Committee of the Boston Bar Association, March 8, 2002.

"The Brave New World for Managed Care Mergers: The *Aetna/Prudential* Merger." Speech presented at the 11th Annual Managed Care Law Conference, co-sponsored by the American Association of Health Plans and the American Bar Association, Kiawah Island, South Carolina, May 1, 2000.

"The Analysis of Product Market Definition and Entry in the *Aetna/Prudential* Transaction." Speech presented at a health care antitrust conference sponsored by the American Health Lawyers Association, Arlington, Virginia, February 17-18, 2000.

"The New Challenge for Mergers of Health Plans: What Does the *Aetna/Prudential* Decree Portend?" Speech presented at the Fifth Annual Health Care Antitrust Forum, Chicago, Illinois, October 22, 1999.

"Vertical Integration in Health Care." Speech presented at the 47th Annual Spring Meeting of the ABA Section of Antitrust Law, Washington, DC, April 14, 1999.

"Hospital Price Inflation: Will it Continue to Fall?" Speech presented at a conference presented by J&H Marsh & McLennan, Inc., St. Louis, Missouri, February 25, 1999.
"Using a Survey to Evaluate the Effect of Non-Infringing Alternatives on Patent Infringement Damages." Speech presented at NERA's Intellectual Property Seminar Series, Washington, DC, October 28, 1998, and New York, New York, June 3, 1998.

"An Introduction to the Economics of Hospital Merger Analysis." Speech presented at a health care antitrust conference sponsored by the Federal Trade Commission, the Missouri Attorney General, St. Louis University School of Law and the ABA Antitrust Section, St. Louis, Missouri, November 14, 1997.

"Using a Survey to Estimate the Price Sensitivity of Consumers." Speech presented at NERA's Second Annual Seminar on Merger Analysis, New York, New York, March 11, 1997.

"Hospital Merger Efficiencies: Passing on the Cost Savings to Consumers." Speech presented at a health care antitrust conference sponsored by the Federal Trade Commission, Denver, Colorado, October 25, 1996.

"The Role of Economics in a Bid-Rigging Investigation." Speech presented at the Antitrust Seminar, National Association of Attorneys General, Baltimore, Maryland, October 12, 1995.

## Selected Merger Experience

*Proctor & Gamble (P&G)*: reports and presentations to the Federal Trade Commission in connection with an acquisition involving over-the-counter heartburn products, 2006.

*Fresenius Medical Care and Renal Care Group*: reports and presentations to the Federal Trade Commission in connection with an acquisition of a national chain of kidney dialysis treatment centers in the US, 2005-2006.

*Evanston Northwestern Healthcare Corporation and Highland Park Hospital*: reports and presentations to the Federal Trade Commission in connection with a retrospective analysis of the competitive effects of a merger of two hospitals in the Chicago area, 2002-2004.

*General Electric Company and Instrumentarium Corporation*: reports and presentations to the Department of Justice and European Commission on behalf of a third party in connection with a proposed acquisition involving patient monitoring devices, 2003.

*Libbey, Inc. and Anchor Hocking Glass Company*: report and presentations to the Federal Trade Commission in connection with a proposed acquisition in the glass beverageware industry, 2001-2002.

*Cytyc Corporation and Digene Corporation*: presentations to the Federal Trade Commission in connection with a proposed acquisition involving the sale of diagnostic test kits for the human papillomavirus (HPV), 2002.

*Philips Medical Systems and Agilent Technologies, Inc.*: report and presentations to the Department of Justice in connection with the proposed acquisition of Agilent's Healthcare Solutions Group by Philips Medical Systems. Both companies manufactured and sold cardiac ultrasound machines, 2000-2001.

*Tyco International Ltd. and Pulmonetic Systems, Inc.*: report and presentations to the Federal Trade Commission in connection with a proposed acquisition involving home care respiratory ventilators, 2001.

*Aetna U.S. Healthcare and Prudential Health Care Plan, Inc.*: reports and presentations to the Department of Justice in connection with a proposed acquisition in the health insurance industry, 1998-1999.

*Newell Rubbermaid, Inc. and Regal Ware, Inc.*: report to the Federal Trade Commission in connection with a proposed acquisition in the cookware industry, 1999.

*Intertape Polymer Group and Central Products Company*: report and presentation to the Federal Trade Commission in connection with a proposed acquisition involving carton-sealing tape, 1999.

*Arrow International, Inc. and C.R. Bard*: presentation to the Federal Trade Commission in connection with the acquisition of C.R. Bard's cardiac assist unit. Both companies manufactured and sold intra-aortic balloon pumps and catheters, 1998.

*Pacificare Health Systems, Inc. and FHP International Corporation*: presentations to the Federal Trade Commission in connection with an acquisition in the health insurance industry. Both firms offered Medicare managed care plans to seniors, 1996-1997.

*Vail Resorts, Inc. and Ralston Resorts, Inc.*: report and presentation to the Department of Justice in connection with an acquisition of ski resorts in Colorado, 1996.

## Selected Litigation Consulting Experience

*In re: DRAM Antitrust Litigation*: retained by counsel for Nanya Technology Corporation and Nanya Techonology Corp. USA to assess issues related to antitrust liability in connection with a nationwide class action suit brought by purchasers of DRAM (dynamic random access memory) chips and modules, in the United States District Court for the Northern District of California, 2006.

*In re: Cotton Yarn Antitrust Litigation*: retained by counsel for Parkdale America,LLC and Parkdale Mills, Inc. to estimate antitrust damages to a class of direct purchasers of cotton yarn in the United States, in the United States District Court for the Middle District of North Carolina, Greensboro Division, 2004-2005.

*In re: Managed Care Litigation*: retained by counsel for the defendants to assess issues related to antitrust liability in connection with a nationwide class action suit brought by physicians and medical societies against ten commercial health insurance plans, in the United States District Court for the Southern District of Florida, Miami Division, 2003-2005.

*In the Matter of Certain Recordable Compact Discs and Rewritable Compact Discs*: retained by counsel for Philips Electronics N.V. and U.S. Philips Corporation to assess the competitive issues surrounding the CD-R and CD-RW patent pools and allegations of patent misuse and injury to competition, in the US International Trade Commission, 2002-2003.

## Selected Industry Experience

Ambulance Services
Bakeware/Ovenware
Blood Testing Instruments and Supplies
Cardiac Medical Devices (e.g., Intra-Aortic Balloon Pumps and Catheters)
Cardiac Ultrasound Machines
Carton Sealing Tape

Chocolate Candies
Clinical Diagnostic Testing
Compact Discs
Cookware
Decorative Laminate Products (e.g., countertops)
Diagnostic Imaging Equipment
Dialysis Services
DRAM (dynamic random access memory) chips and modules
Ferrous Scrap
Fertilizer
Glass Beverageware
Health Insurance (e.g., HMOs and other managed care products)
Heating, Ventilation, and Air Conditioning Products
Hospice and Palliative Care
Hospital Beds
Hospital Services
Lamps and Lighting
Mattresses
Media Research
Methadone Maintenance Treatment
Microfiltration Products
Orthopedic Products
Outdoor Advertising
Over-the-Counter Prescription Drugs
Patient Monitoring Equipment and Anesthesia Machines
Physician Services (e.g., cardiovascular surgery, obstetrics, orthopedic)
Postage Meters
Pipelay Services
Printers and Printing Supplies (e.g., wide format printers)
Respiratory Ventilators
Ski Resorts
Smokeless Tobacco (loose leaf chewing tobacco)
Urinary Catheters
Vitamins

2/14/08

**EXHIBIT 2**

**List of Documents and Information Relied Upon**

**Court Filings in the Circuit Court of the First Circuit, State of Hawai`i**

- Complaint, January 11, 2002.
- Second Amended Complaint, February 17, 2005.

**Court Filings in the United States District Court for the District of Hawai`i**

- Complaint, December 29, 2003.

**Documents Related to the Opinions of Dr. David M. Eisenstadt**

- Preliminary Opinions of David M. Eisenstadt, May 13, 2006.
- Report of David M. Eisenstadt, January 31, 2008.
- Deposition of David M. Eisenstadt, May 13, 2006.
- Deposition of David M. Eisenstadt, February 5, 2008.
- Annotated Database of Carol Kotsubo, "Copy of Kotsubo cancer patient database 5.7.06.de notes.xls"
- HCBCG Professional Charges by Date of Service, Physician, Payor, and CPT, "Hemo-Onc Services by Patient Part Deaux.xls."

**Data and Documents from HPH, KMS, or KMCWC**

- Contracts between KMS and various third-party payors, Bates Nos. C 1-994.
- Fiscal Year 1999 to 2007 records of inpatient admissions and outpatient encounters at KMCWC, "PHO Summary FY99 to 06 with CCM Payor.xls."
- Fiscal Year 2007 records of inpatient admissions and outpatient encounters at KMCWC, "FY07 Comm Benefits - PHO_A55738 - A55930.xls"
- Records of inpatient admissions and outpatient encounters at KMCWC administered by Dr. Fryberger, "lf ped onc - tsi margin report by fryberger_A55931 - A55954.xls"
- Records of inpatient admissions and outpatient encounters at KMCWC administered by Dr. Fryberger, "lf pho-margin report fryberger-epic_A55955 - A55964.xls"
- KMS Professional Charges by Date of Service, Physician, Payor, and CPT, "Exhibit 9.A34670-36415-2.xls," "Exhibit 9.a_A55169-55322.xls," "Exhibit 9.b_A55323-55366.xls," "Exhibit 9.c_A55367-55714.xls," and "Exhibit 9.d_A55715-55721.xls."

**Deposition Transcripts**

- Deposition of Donna Lee McCleary, M.D., September 16, 2005.
- Deposition of Robert Y.L. Hee, Volume I, November 1, 2005.
- Deposition of Ken Dougan, M.D., December 9, 2005.
- Deposition of Darryl Glaser, M.D., February 6, 2006.

**Interviews**

- Dr. Kenneth Dougan, January 29, 2007.
- Louise Fukumoto, January 31, 2007 and various times in February 2008.
- Dr. Darryl Glaser, January 30, 2007.
- Carol Kotsubo, January 31, 2007.
- Dr. Donna McCleary, January 29, 2007.
- Dr. Desiree Medeiros, January 30, 2007
- Hilton Raethel, January 29, 2007 and January 30, 2008.
- Martha Smith, January 31, 2007.

**Publicly Available Information**

- KMCWC Physician Directory, http://www.kapiolani.org/women-and-children/physician-directory/default.aspx. (Last accessed on February 12, 2008.)

## Professional Fees Paid to HCBCG and KMS

### Fiscal Years (FY) 2004 - 2005

| Group | FY 2004 | | FY 2005 | |
|---|---|---|---|---|
| | Payments | Share | Payments | Share |
| | ----- (Dollars) ----- | --- (Percent) --- | ----- (Dollars) ----- | --- (Percent) --- |
| | | (a) / 350,299 | | (c) / 386,242 |
| | (a) | (b) | (c) | (d) |
| HCBCG | $ 210,938 | 60.2 % | $ 216,841 | 56.1 % |
| KMS | 139,361 | 39.8 | 169,401 | 43.9 |
| **Total** | **$ 350,299** | **100.0 %** | **$ 386,242** | **100.0 %** |

Note: The table shows total professional fees paid to HCBCG and KMS pediatric hematology-oncology physicians for dates of service during fiscal years 2004 and 2005. A fiscal year ends in June of each calendar year. Payments for which the dates of service were unknown are excluded from the table.

Sources: HPH Data Production: "Exhibit 9.A34670-36415-2.xls," "Exhibit 9.a_A55169-55322.xls," "Exhibit 9.b_A55323-55366.xls," "Exhibit 9.c_A55367-55714.xls," and "Exhibit 9.d_A55715-55721.xls."

HCBCG Data Production: "Hemo-Onc Services by Patient Part Deaux.xls."

EXHIBIT 4

# Pediatric Hematology-Oncology Inpatient Admissions and Outpatient Encounters at KMCWC
## All Insurance Payor Types
## Fiscal Years (FY) 2006 - 2007

| | Inpatient Admissions | | | |
|---|---|---|---|---|
| | FY 2006 | | FY 2007 | |
| Group | Admissions | Share | Admissions | Share |
| | | --- (Percent) --- | | --- (Percent) --- |
| | | (a) / 617 | | (c) / 501 |
| | (a) | (b) | (c) | (d) |
| HCBCG | 283 | 45.9 % | 265 | 52.9 % |
| KMS | 334 | 54.1 | 236 | 47.1 |
| **Total** | **617** | **100.0 %** | **501** | **100.0 %** |

| | Outpatient Encounters | | | |
|---|---|---|---|---|
| | FY 2006 | | FY 2007 | |
| Group | Encounters | Share | Encounters | Share |
| | | --- (Percent) --- | | --- (Percent) --- |
| | | (e) / 2,266 | | (g) / 2,355 |
| | (e) | (f) | (g) | (h) |
| HCBCG | 1,190 | 52.5 % | 1,222 | 51.9 % |
| KMS | 1,076 | 47.5 | 1,133 | 48.1 |
| **Total** | **2,266** | **100.0 %** | **2,355** | **100.0 %** |

Note: Outpatient encounters and inpatient admissions are assigned to a fiscal year by the date of discharge. According to KMCWC, a fiscal year ends in June of each calendar year.

Each outpatient encounter in the table corresponds to an account, which could incorporate multiple dates of service.

Sources: HPH Data Production: "FY07 Comm Benefits - PHO_A55738 - A55930.xls," "lf ped onc - tsi margin report by fryberger_A55931 - A55954.xls," "lf pho-margin report fryberger-epic_A55955 - A55964.xls," and "PHO Summary FY99 to 06 with CCM Payor.xls."

**Professional Fees Paid to KMS and HCBCG**
**For Services Provided to "H type" Referrals to KMS (as identified by Dr. Eisenstadt)[1]**
**April 2002 - April 2006**

| Patient Identifier | Date of First Service | Date of Diagnosis[2] | Professional Fees Paid to Each Group | | | Share of Total Payments | |
|---|---|---|---|---|---|---|---|
| | | | HCBCG | KMS | Total | HCBCG | KMS |
| | | | (Dollars) | | | (Percent) | |
| | (a) | (b) | (c) | (d) | (c) + (d) (e) | (c) / (e) (f) | (d) / (e) (g) |
| **1** | **9-Oct-02** | **9-Oct-02** | **$ 606** | **$ 13,232** | **$ 13,838** | **4.4 %** | **95.6 %** |
| **2** | **17-Sep-02** | **17-Sep-02** | **3,561** | **10,247** | **13,808** | **25.8** | **74.2** |
| **3** | **23-Dec-03** | **24-Dec-03** | **6,700** | **6,040** | **12,740** | **52.6** | **47.4** |
| 4 | 9-Nov-99 | 13-Jul-04 | - | 11,978 | 11,978 | - | 100.0 |
| 5 | 12-Sep-03 | 15-Sep-03 | - | 11,832 | 11,832 | - | 100.0 |
| 6 | 13-Sep-04 | 9-Sep-04 | - | 10,772 | 10,772 | - | 100.0 |
| **7** | **26-Mar-04** | **29-Mar-04** | **200** | **10,397** | **10,597** | **1.9** | **98.1** |
| **8** | **26-Mar-04** | **25-Mar-04** | **8,357** | **2,170** | **10,527** | **79.4** | **20.6** |
| 9 | 8-Mar-05 | 8-Mar-05 | - | 9,261 | 9,261 | - | 100.0 |
| 10 | 15-Oct-05 | 17-Oct-05 | - | 9,192 | 9,192 | - | 100.0 |
| 11 | 6-May-03 | 7-May-03 | - | 9,009 | 9,009 | - | 100.0 |
| 12 | 8-Oct-03 | 8-Oct-03 | - | 8,956 | 8,956 | - | 100.0 |
| **13** | **7-Aug-02** | **8-Aug-02** | **189** | **8,323** | **8,512** | **2.2** | **97.8** |
| 14 | 28-May-04 | 28-May-04 | - | 8,346 | 8,346 | - | 100.0 |
| 15 | 31-Dec-04 | 3-Jan-05 | - | 8,141 | 8,141 | - | 100.0 |
| **16** | **26-Mar-03** | **31-Mar-03** | **100** | **7,648** | **7,748** | **1.3** | **98.7** |
| **17** | **16-Dec-03** | **30-Nov-03** | **165** | **6,694** | **6,859** | **2.4** | **97.6** |
| **18** | **8-Jul-02** | **30-Jun-02** | **362** | **5,751** | **6,113** | **5.9** | **94.1** |
| **19** | **3-Mar-03** | **4-Mar-03** | **57** | **5,766** | **5,824** | **1.0** | **99.0** |
| 20 | 1-Jul-99 | 22-Jul-05 | - | 5,341 | 5,341 | - | 100.0 |
| 21 | 24-Oct-05 | 24-Oct-05 | - | 5,138 | 5,138 | - | 100.0 |
| 22 | 8-Oct-04 | 7-Oct-04 | - | 4,658 | 4,658 | - | 100.0 |
| **23** | **1-Jan-02** | **24-Dec-02** | **45** | **4,367** | **4,413** | **1.0** | **99.0** |
| 24 | 4-Sep-03 | 5-Sep-03 | - | 4,164 | 4,164 | - | 100.0 |
| 25 | 2-Jun-05 | 2-Jun-05 | - | 4,080 | 4,080 | - | 100.0 |
| 26 | 18-Apr-05 | 26-Apr-05 | - | 3,271 | 3,271 | - | 100.0 |
| 27 | 27-Dec-04 | 23-Dec-04 | - | 2,516 | 2,516 | - | 100.0 |
| 28 | 14-Jul-05 | 15-Jul-05 | - | 2,012 | 2,012 | - | 100.0 |
| 29 | 7-May-03 | 11-Apr-03 | - | 1,740 | 1,740 | - | 100.0 |
| 30 | 12-Mar-02 | 26-Jul-04 | - | 1,717 | 1,717 | - | 100.0 |
| 31 | 12-Aug-04 | 1-Feb-03 | - | 1,715 | 1,715 | - | 100.0 |
| 32 | 26-Jul-05 | - | - | 1,409 | 1,409 | - | 100.0 |
| 33 | 27-Jan-03 | 27-Jan-03 | - | 1,338 | 1,338 | - | 100.0 |
| 34 | 12-Jun-02 | 14-Jun-02 | - | 1,212 | 1,212 | - | 100.0 |
| 35 | 20-Jun-05 | 8-Jul-05 | - | 1,089 | 1,089 | - | 100.0 |
| **36** | **27-Aug-03** | **28-Aug-03** | **73** | **971** | **1,044** | **7.0** | **93.0** |
| 37 | 26-Nov-02 | 26-Nov-02 | - | 766 | 766 | - | 100.0 |
| 38 | 8-Jan-03 | 13-Jan-03 | - | 369 | 369 | - | 100.0 |
| 39 | 3-Feb-05 | - | - | 167 | 167 | - | 100.0 |
| **40** | **9-Feb-04** | **2-Feb-04** | **133** | **-** | **133** | **100.0** | **-** |
| 41 | 7-Apr-04 | 4-Jan-04 | - | 37 | 37 | - | 100.0 |
| 42 | - | 22-Jul-05 | - | - | - | - | - |
| 43 | 28-May-05 | 16-May-05 | - | - | - | - | - |
| 44 | - | 13-Dec-03 | - | - | - | - | - |
| 45 | - | 20-Nov-02 | - | - | - | - | - |
| **Total** | | | **$ 20,549** | **$ 211,832** | **$ 232,381** | | |

Note: The table shows total professional fees paid to HCBCG and KMS pediatric hematology-oncology physicians for services to patients that were identified by Dr. Kelley Woodruff, in an interview with Dr. Eisenstadt, as hospital ("H type") referrals to KMS physicians. The dates of service in the table range from April 1, 2002 to April 21, 2006. Payments for which the dates of service were unknown are excluded from the table.

[1] KMS physicians include Drs. Fryberger, Glaser, Kyono, Medeiros, and Wada.

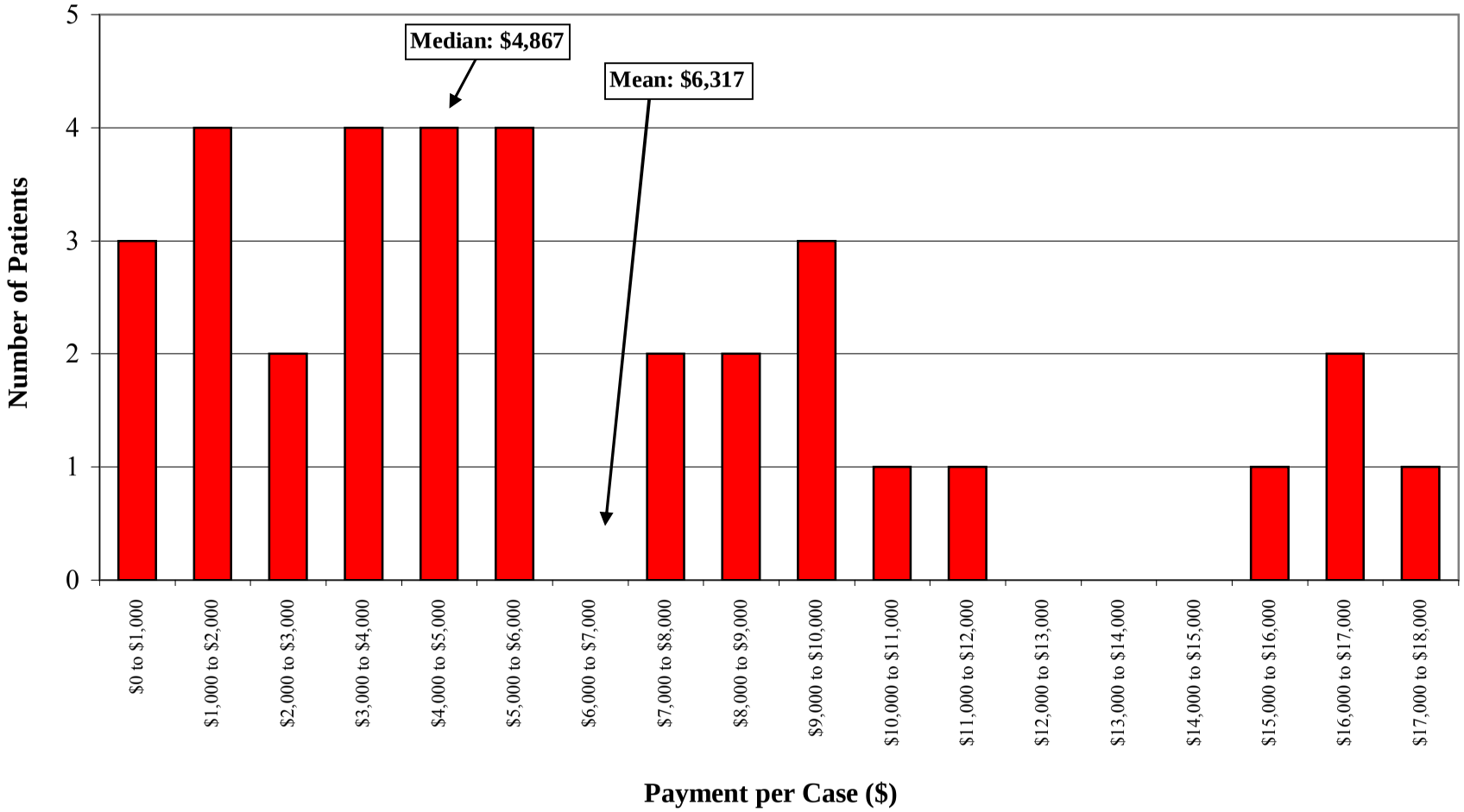
[2] As the date appears in "Copy of Kotsubo cancer patient database 5.7.06 de notes.xls."

Sources: HPH Data Production: "Exhibit 9.A34670-36415-2.xls," "Exhibit 9.a_A55169-55322.xls," "Exhibit 9.b_A55323-55366.xls," "Exhibit 9.c_A55367-55714.xls," and "Exhibit 9.d_A55715-55721.xls."

HCBCG Data Production: "Hemo-Onc Services by Patient Part Deaux.xls," and "Copy of Kotsubo cancer patient database 5.7.06 de notes.xls."

# Distribution of HCBCG Patients by Professional Fees Paid per Case

**For the First 18 Months of Treatment for Patients Diagnosed from April 2002 to October 2004**




Sources: HCBCG Data Production: "Hemo-Onc Services by Patient Part Deaux.xls," and "Copy of Kotsubo cancer patient database 5.7.06 de notes.xls."

APPENDIX A

**IN THE CIRCUIT COURT OF THE FIRST CIRCUIT**

**STATE OF HAWAI`I**

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| Kelley Woodruff, M.D. and Hawai`i Children's Blood and Cancer Group<br><br>Plaintiffs<br><br>vs.<br><br>Hawai`i Pacific Health; Kapi`olani Medical Specialists; Kapi`olani Medical Center For Women and Children; Roger Drue; Frances A. Hallonquist; Neal Winn, M.D.; Sherrel Hammar, M.D.; Deloitte & Touche LLP; Dennis M. Warren, Esq.; John Does 1-99; Jane Does 1-99; DOE Entities 1-20; Doe Governmental Units 1-10<br><br>Defendants | Civil No. 02-1-0090-01 (BIA) |

# DECLARATION OF LAWRENCE WU

**February 14, 2008**

## I. INTRODUCTION

### A. Qualifications and Experience

1. I am an economist and Senior Vice President at National Economic Research Associates, Inc. (NERA). NERA is a firm of consulting economists that provides research and analysis in the economics of competition, regulation, and finance. I received my B.A. from Stanford University and my Ph.D. from the University of Chicago, Graduate School of Business. As a health economist, I have had a great deal of experience in assessing competition in a variety of health care markets, including health insurance, hospital services, physician services, and

medical devices. My research in health economics and health care antitrust includes several published articles and my Ph.D. dissertation at the Graduate School of Business at the University of Chicago. In the spring of 1997, I also taught a graduate course in health economics at the Wagner School of Public Service at New York University.

2. More generally, as an applied microeconomist, I have analyzed the competitive implications of mergers and acquisitions, as well as a broad range of business practices (e.g., tying, exclusive contracting, and foreclosure) in many retail, manufacturing, and service industries. I also have provided written and oral expert testimony on numerous occasions, which include testimony in U.S. district courts and presentations before the U.S. Federal Trade Commission (FTC) and the U.S. Department of Justice (DOJ).

3. My research has appeared in the *Antitrust Bulletin*, *Antitrust Report*, *European Competition Law Review*, *Journal of Business Venturing*, and *Medical Care*, and I am the editor of two books that have been published on the economics of antitrust. My recent speeches in the area of healthcare competition include presentations at the 2005 American Bar Association (ABA) Health Law Section conference on Emerging Issues in Healthcare Law and the 2005 Antitrust in Healthcare conference sponsored by the ABA Antitrust Law and Health Law Sections and the American Health Lawyers Association. I also testified at the FTC and DOJ Hearings on Health Care and Competition Law and Policy in 2003.

4. Prior to joining NERA, I was a staff economist in the Bureau of Economics at the FTC. At the FTC, the majority of my work involved analyses of proposed mergers in the health care field. I also analyzed the competitive effects of horizontal agreements among competitors, including trade association rules and regulations. My publications, prior testimony, and selected consulting assignments are listed in my curriculum vitae, which is appended to this report as Exhibit 1.

## B. Overview of the Allegations

5. The plaintiffs are Dr. Kelley Woodruff and a medical group called Hawai`i Children's Blood and Cancer Group (HCBCG). HCBCG was founded in April 2002 by two pediatric hematology-oncologists, Dr. Woodruff and Dr. Robert W. Wilkinson. Prior to that, Dr. Woodruff and Dr. Wilkinson were employees of Kapi`olani Medical Specialists (KMS). Dr.

Woodruff and Dr. Wilkinson have staff privileges at KMCWC, where they have continued to see and treat patients.

6. The defendants in this matter include Hawai`i Pacific Health (HPH), which is a health care system that serves Hawai`i with a broad network of hospitals, outpatient clinics, and physicians. This network includes KMS, which is a multispecialty physician group, and Kapi`olani Medical Center for Women and Children (KMCWC), which is a women's and children's hospital in Honolulu.

7. The plaintiffs' central antitrust and unfair competition allegations are that HPH, KMCWC, and KMS have used KMCWC's monopoly power in the market for pediatric hematology-oncology ("hem-onc") inpatient and outpatient hospital services to prevent HCBCG's physicians from competing with KMS, which allegedly has harmed competition in the market for pediatric hem-onc physician services.[1] Specifically, the plaintiffs allege that HPH, KMCWC, and KMS attempted to exclude HCBCG from the marketplace by preventing HCBCG's physicians from receiving new patient referrals and redirecting HCBCG's existing patients to KMS-employed physicians.[2]

8. However, it appears that the plaintiffs are concerned only about new patient referrals. As described by the plaintiffs' economic expert, Dr. David Eisenstadt, KMCWC prevented HCBCG from competing for *new* hem-onc patients from April 2002 through February 2004 by not allowing HCBCG to participate in the KMCWC call schedule for new patients.[3] In particular, Dr. Eisenstadt focuses on the call schedule that applied to patients who arrived at KMCWC without a referral for a specific hematology-oncologist.[4]

## C. Nature and Scope of the Assignment

9. For purposes of this declaration, I was asked by counsel for HPH, KMCWC, and KMS to address the following questions: (a) Is the alleged foreclosure or exclusion of HCBCG

[1] See, for example, paragraphs 94, 109, and 134 in the Second Amended Complaint.

[2] See, for example, paragraph 92 in the Second Amended Complaint.

[3] A discussion of the alleged anticompetitive conduct can be found in Section XI (paragraphs 35-37) and paragraphs 39-40 of the report that was submitted by the plaintiffs' economic expert, Dr. Eisenstadt, on January 31, 2008 (hereafter, the "Eisenstadt Report").

[4] Eisenstadt Report, paragraph 39.

from the marketplace supported by and consistent with key, undisputed market facts? and (b) Is it plausible that HCBCG's ability to compete for new patients was adversely affected by a call schedule that might have affected new patients who did not already have a referral to see a specific hematology-oncologist?

10. Both questions test the applicability of the plaintiffs' theory of competitive harm in this case. For the plaintiffs' antitrust claims to have merit, there must be evidence that the alleged misconduct—if it occurred—has, in fact, led to the exclusion of HCBCG from the market or otherwise impeded HCBCG's ability to compete. The empirical data that addresses the first question listed above show that HCBCG's patient volume has not, in fact, been adversely affected. Without evidence of actual or likely foreclosure, there is no basis for the plaintiffs' claim that the alleged misconduct has given or could give KMS the ability to monopolize the market for pediatric hem-onc physician services.

11. The second question listed above examines whether the alleged misconduct—assuming that it occurred—could have adversely affected HCBCG's ability to compete for referrals and obtain new patients. The data relied upon by Dr. Eisenstadt show that the clear majority of pediatric hem-onc patients would not have been affected by the call schedule. Moreover, HCBCG could have easily increased its volume of new patient referrals by reaching out to pediatricians and other physicians who are sources of new pediatric hem-onc patients. Indeed, KMS and KMCWC have not prevented HCBCG from competing for physician referrals directly and increasing the number of patients who arrive at KMCWC with a referral to them specifically. According to Dr. Eisenstadt, HCBCG's share of "direct referrals" (i.e., referrals of patients to a specific pediatric hematology-oncologist) from non-KMS physicians was higher than KMS's share.[5]

## D. Information Relied Upon

12. The opinions in this report are based on my professional training and experience, as well as my review of (a) the Complaint and Second Amended Complaint, (b) a report submitted by Dr. David M. Eisenstadt on January 31, 2008 (the "Eisenstadt Report"), (c) the transcript of a

[5] As noted in paragraph 40 of the Eisenstadt Report, "during the period April 2002 to October 2005, HCBCG treated more than half of those pediatric hematology-oncology patients who received a 'direct' referral from a non-KMS doctor."

deposition taken of Dr. Eisenstadt on February 5, 2008, and (d) data on inpatient admissions and outpatient encounters at KMCWC for fiscal years 1999 to 2007. A complete list of the primary materials and information that I relied upon to prepare this declaration is attached as Exhibit 2.

13. My research and analysis are continuing, and my opinions may be supplemented or updated to reflect any subsequent production of documents, testimony or additional information provided to me. I also intend to review any additional information that may be submitted by the plaintiffs, and if necessary, submit additional reports.[6]

## II. THE POTENTIAL FORECLOSURE OF HCBCG IS NOT CONSISTENT WITH MARKET FACTS

14. At the heart of the plaintiffs' theory of competitive harm is the claim that HPH, KMCWC, and KMS have acted in ways that have prevented or impaired the ability of HCBCG's physicians to compete in the marketplace. However, the plaintiffs' theory of anticompetitive foreclosure is plausible only if the key elements of the theory are supported by and consistent with key, undisputed market facts. Among the most important of these elements is the proposition that the defendants' conduct has led to or is likely to lead to the exit of HCBCG as an independent competitor from the market. If HCBCG is not likely to exit the market, then the risk of monopolization by KMS in the market for pediatric hem-onc physician services would be low. As I explain below, the facts are not consistent with the exit and potential foreclosure of HCBCG as an independent competitor in the marketplace.

### A. Market Definition and Market Structure

15. For the purpose of developing the conclusions that are described in this declaration, I will accept the following fundamental observations or statements about the relevant market and the structure of that market as either undisputed facts or facts that the plaintiffs or plaintiffs' economic expert have claimed are true.[7]

[6] The Eisenstadt Report does not contain any analyses of the economic damages or lost profits suffered by the plaintiffs. Should Dr. Eisenstadt or any other expert submit a report on damages, I may submit additional analyses and reports, if asked to do so.

[7] For the purpose of this declaration, I have accepted as true many of the facts, assumptions, and premises that are explicit or implicit in the plaintiffs' allegations. However, I reserve the right to assess the validity of these facts, assumptions, and premises in the future.

- The plaintiffs have asserted that there are two relevant markets in which to assess their antitrust and unfair competition allegations: (a) pediatric hem-onc physician services provided by pediatric hematology-oncologists in Hawai`i, and (b) pediatric hem-onc hospital or facility services provided by hospitals in Hawai`i.[8]

- The plaintiffs have asserted that the participants in the market for pediatric hem-onc physician services are pediatric hematology-oncologists, which do not include adult hematology-oncologists.[9] According to the plaintiffs, the only two significant physician groups that provide pediatric hem-onc physician services are the plaintiffs (HCBCG) and one of the defendants (KMS).[10]

- The plaintiffs have asserted that the participants in the market for pediatric hem-onc hospital services are pediatric tertiary care hospitals that are open to the general public, which would exclude Tripler Army Medical Center.[11] The plaintiffs also claim that Kaiser Moanalua Hospital is not an alternative to KMCWC for non-Kaiser-insured patients.[12]

- The plaintiffs also have asserted that Queens Medical Center and the Cancer Research Center of Hawai`i (CRCH) are not likely entrants into the market for pediatric hem-onc hospital services.[13]

## B. Analysis of the Alleged Foreclosure of HCBCG

16. Even if we assume the facts above—as asserted by the plaintiffs and Dr. Eisenstadt—there is no evidence that HCBCG has been foreclosed from the market or that the group's ability to compete for new patients has been compromised. To assess whether HCBCG has been

[8] Eisenstadt Report, paragraph 9. A discussion of the market for hem-onc physician services appears in paragraphs 12-14 of the Eisenstadt Report. A discussion of the market for hem-onc hospital or facility services appears in paragraphs 16-20. A discussion of the geographic market appears in paragraphs 21-28 of the Eisenstadt Report.

[9] Eisenstadt Report, paragraph 12.

[10] Eisenstadt Report, paragraph 13. However, as Dr. Eisenstadt recognizes, Dr. Ken Dougan provides hem-onc physician services to patients covered by Kaiser. Nevertheless, I will accept, for the purposes of this report, the claim that KMS and HCBCG are the only two physician groups that provide pediatric hem-onc services in Hawai`i.

[11] Eisenstadt Report, paragraph 17.

[12] Eisenstadt Report, paragraph 17.

[13] Eisenstadt Report, paragraphs 18 and 20.

foreclosed from the market, I analyzed data on pediatric hem-onc inpatient admissions and outpatient encounters at KMCWC for fiscal years 1999 to 2007.[14] The data contain information on the number of inpatient admissions and outpatient encounters at KMCWC for each pediatric hem-onc physician.[15] The data also show the number of inpatient admissions and outpatient encounters for each physician by payor (e.g., HMSA, Kaiser, Medicare, and Medicaid). Each payor in the data was classified under one of the following categories, based on the type of insurance coverage that they underwrite: commercial, Medicare or Medicaid, or other non-government.[16] For fiscal years 1999 to 2007, commercial payors represented 60 percent of total inpatient admissions and 63 percent of total outpatient encounters; Medicare and Medicaid payors represented 34 percent of total inpatient admissions and 30 percent of total outpatient encounters; other non-government payors represented six percent of total inpatient admissions and seven percent of total outpatient encounters.[17]

17. Contrary to the plaintiffs' allegations, Dr. Woodruff and Dr. Wilkinson continue to have thriving practices. As shown in Exhibit 3, Dr. Wilkinson and Dr. Woodruff were the top two admitters of pediatric hem-onc patients requiring an inpatient stay at KMCWC in 2006 and 2007. In 2006, Dr. Wilkinson had 154 patient admissions and Dr. Woodruff had 129 patient admissions. The third top admitter was Dr. Darryl Glaser of KMS, who had 91 patient admissions that year. In 2007, Dr. Wilkinson and Dr. Woodruff each had twice (or more than twice) as many inpatient admissions than any single KMS physician. In 2007, Dr. Wilkinson had 135 admissions and Dr. Woodruff had 130 admissions. No KMS-employed pediatric hematology-oncologist had more than 65 inpatient admissions that year. Dr. Shigeko Lau had 65 admissions, Dr. Glaser had 60 admissions, Dr. Sarah Fryberger had 53 admissions, and Dr. Wade Kyono had 46 admissions.

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[14] Outpatient encounters and inpatient admissions are assigned to a fiscal year by the date of discharge. According to KMCWC, a fiscal year ends in June and begins in July of each calendar year.

[15] The pediatric hem-onc physicians who appear in the data are Drs. Sarah Fryberger, Darryl Glaser, Wade Kyono, Shigeko Lau, Desiree Medeiros, Thomas Miale, Randal Wada, Robert Wilkinson, and Kelley Woodruff.

[16] Payors for which the name of the payor was not available were excluded from the analysis.

[17] These figures are based on my analysis of data on pediatric hem-onc inpatient admissions and outpatient encounters at KMCWC from 1999 to 2007. The data can be found in four files: "PHO Summary FY99 to 06 with CCM Payor.xls," "FY07 Comm Benefits - PHO_A55738 - A55930.xls," "lf ped onc - tsi margin report by fryberger_A55931 - A55954.xls," and "lf pho-margin report fryberger-epic_A55955 - A55964.xls."

18. The same is generally true with respect to pediatric hem-onc outpatient encounters. In both 2006 and 2007, Dr. Wilkinson had the highest number of pediatric hem-onc outpatient encounters—774 in 2006 and 745 in 2007. Dr. Woodruff had the third highest number of outpatient encounters, with 416 in 2006 and 477 in 2007. Dr. Glaser had the second highest number of outpatient encounters, with 485 in 2006 and 526 in 2007. Combined, these three physicians—two of which are with HCBCG—accounted for the majority of outpatient encounters in 2006 and 2007. In fact, HCBCG accounted for 53 percent of total outpatient encounters in 2006 and 52 percent of total outpatient encounters in 2007.

19. Exhibits 4-A through 4-D show that HCBCG's share of inpatient pediatric hem-onc admissions has been generally high and increasing since it began operation in April 2002. As shown in Exhibit 4-A, HCBCG's share of total inpatient admissions has been rising since 2005. In 2005, HCBCG's share of inpatient admissions was 42 percent. By the end of 2007, HCBCG's share of inpatient admissions had increased to 53 percent. This result holds by payor category, as well. For patients covered by a commercial payor, HCBCG's share of inpatient admissions increased from 42 percent in 2005 to 54 percent in 2007. (See Exhibit 4-B.) Among Medicare and Medicaid patients, HCBCG's share increased from 32 percent to 52 percent from 2005 to 2007. (See Exhibit 4-C.) For patients covered by other non-commercial payors, HCBCG's share of inpatient admissions has been at least 50 percent since 2005. (See Exhibit 4-D.)

20. In addition, Exhibits 5-A through 5-D show that HCBCG has maintained a high share of pediatric hem-onc outpatient encounters since it was formed. In fact, the data show that HCBCG's total share of outpatient encounters has exceeded that of KMS in every year since it began operation. As shown in Exhibit 5-A, HCBCG's share of pediatric hem-onc outpatient encounters has been around 55 percent since 2003. An analysis of HCBCG's share of outpatient encounters by payor category yields similar conclusions. For patients covered by a commercial payor, HCBCG's share of outpatient encounters has exceeded that of KMS in every year since 2003. As shown in Exhibit 5-B, HCBCG's share of outpatient encounters in this category has been around 57 percent since 2003. HCBCG's share of Medicare and Medicaid outpatient encounters also increased, rising from 45 percent in 2005 to 51 percent in 2007. (See Exhibit 5-C.) Similarly, HCBCG has always had a higher share of patients covered by other non-commercial payors. (See Exhibit 5-D.)

21. Moreover, the plaintiffs' allegations that KMCWC has prevented HCBCG's physicians from getting new patients are not consistent with KMCWC's actual marketing and public relations activities. KMCWC has continued to promote Dr. Woodruff to the community in its promotional literature and on its website. For example, Dr. Woodruff is one of three specialists listed in the physician directory on KMCWC's website under "pediatric oncology" and "pediatric hematology."[18] The other two physicians in the directory are Dr. Darryl Glaser and Dr. Wilkinson, which means that two of the three listed physicians are HCBCG's physicians and only one is a KMS-employed physician. In other words, contrary to the plaintiffs' claims that KMCWC may favor KMS-employed physicians over Drs. Woodruff and Wilkinson, Dr. Glaser is the *only* KMS-employed physician who appears in the KMCWC directory under "pediatric oncology" and "pediatric hematology." The KMS-employed pediatric hematology-oncologists who do not appear on this list are Dr. Randal Wada, Dr. Wade Kyono, and Dr. Desiree Medeiros.

22. In summary, for the plaintiffs' theory of competitive harm to have merit, there must be some indication that HCBCG has been unsuccessful as an entrant or at a high risk of exiting the market.[19] Only then could KMS monopolize the market for pediatric hem-onc services. However, the facts do not support the plaintiffs' claims: KMCWC continues to promote Dr. Woodruff's and Dr. Wilkinson's practices to the community; HCBCG has been a successful entrant into the market with a broad referral base and significant patient volume; and Dr. Woodruff and Dr. Wilkinson continue to practice actively at KMCWC with full staff privileges. The facts are simply inconsistent with the claim that HCBCG's physicians have been foreclosed or are likely to be foreclosed from the market for pediatric hem-onc physician services.

[18] See http://www.kapiolani.org/women-and-children/physician-directory/default.aspx. (Last accessed on February 12, 2008.)

[19] For the plaintiffs' theory of competitive harm to have merit, other conditions also need to be in place. For example, a key part of the plaintiffs' theory is that KMS physicians are referring their pediatric hem-onc patients to KMS' pediatric hematology-oncologists and not to Dr. Woodruff or Dr. Wilkinson in a manner that is inconsistent with competitive conduct and consistent with an attempt by KMS to foreclose HCBCG from the market. KMS is an integrated multispecialty physician group, so a factual finding that KMS physicians are referring more of their patients to KMS' pediatric hematology-oncologists would be consistent with the general practice of multispecialty physician group practices, particularly those that are integrated.

## III. CONDUCT THAT ALTERS THE REFERRALS OF NEW PATIENTS WHO DID NOT HAVE A REFERRAL FOR A SPECIFIC SPECIALIST HAS NOT HARMED COMPETITION

23. The plaintiffs allege that HCBCG's ability to compete was or is likely to be compromised by a call schedule that might have affected new patients who did not already have a referral to see a specific hematology-oncologist.[20] This is not a viable theory of competitive harm even if we assume that the conduct occurred as alleged by the plaintiffs. The main reason is that the clear majority of new patients for both KMS and HCBCG are not patients who present themselves at KMCWC without the name of a specific hematology-oncologist.

24. Consider, for instance, the data that were analyzed by Dr. Eisenstadt in his analysis of new patients, which he places into two categories: (a) "direct referrals," which refer to patients who arrived at KMCWC with a specific hematology-oncologist in mind, and (b) "hospital" or "H type" referrals, which refer to patients who arrived at KMCWC without a specific hematology-oncologist in mind (and are therefore patients who would have needed KMCWC to provide them with the name of a specialist).[21] Even if we assume, for present purposes only, that Dr. Eisenstadt's classification of patients as "direct referrals" and "hospital" or "H type" referrals was accurate, it is evident that the clear majority of new patients treated by KMS and HCBCG are patients that did not need KMCWC to give them a referral (i.e., "direct referrals"). According to Dr. Eisenstadt, 66 percent of all new pediatric hem-onc patients are direct referrals.[22] In other words, a substantial majority of all new patients would not have been affected by the alleged anticompetitive conduct. These facts suggest that the alleged conduct—even if assumed to be true—would not have denied HCBCG access to a substantial set of new patients.

25. Moreover, the number of new patients who arrive at KMCWC without the name of a specific hematology-oncologist—the so-called "hospital" or "H type" referrals—is not fixed in

[20] Eisenstadt Report, paragraphs 39 and 40, and the Deposition of Dr. Eisenstadt, February 5, 2008, pp. 133-134.

[21] Dr. Eisenstadt appears to use the terms "hospital" and "H type" referrals to refer to patients that went to KMCWC "without having previously received a referral for a specific hematology-oncologist." (See Eisenstadt Deposition, pp. 104-105.

[22] Dr. Eisenstadt's Preliminary Opinions, p. 16, which appears to be based on the data that are in "Copy of Kotsubo cancer patient database 5.7.06.de notes.xls."

stone. Even though these patients may have arrived at KMCWC without the name of a specific hematology-oncologist, most of them traveled to KMCWC upon the advice of a physician. Indeed, as revealed by the notes taken by Dr. Eisenstadt based on his conversation with Dr. Woodruff, most of the patients that are in the category of "hospital" or "H type" referrals arrived at KMCWC after being referred to KMCWC by a physician.[23] For example, one patient arrived at KMCWC after being referred by a physician in Guam, while another arrived at KMCWC after referral from an employee at the Shriners Hospital for Children.

26. This is important because even if it is assumed that the call schedule had, in fact, been altered to favor KMS' pediatric hematology-oncologists, HCBCG's physicians could have taken steps to avoid the attempted foreclosure simply by seeking to increase the number of direct referrals. For instance, HCBCG's physicians could have reached out to pediatricians on the neighbor islands and Guam, as well as to pediatricians and physicians practicing locally, to encourage them to refer their patients to them specifically. In other words, HCBCG could have avoided the alleged misconduct by competing for referrals and by engaging in outreach and other marketing efforts that would have effectively shifted patients from the category of "hospital" or "H type" referrals (which, in theory, could have been affected by the allegedly anticompetitive call schedule) to "direct referrals" (which were not affected by the allegedly anticompetitive call schedule).

27. There may be patients who literally walk into KMCWC without having seen a physician first. But this is not the case for the clear majority of cases. Thus, it is not plausible that KMS or KMCWC could have used an allegedly anticompetitive call schedule to effectively deny Dr. Woodruff or Dr. Wilkinson access to a substantial set of new patients. And because Dr. Woodruff and Dr. Wilkinson have other, more effective avenues of getting referrals and new patients—networking with pediatricians and other referral sources, participating in lectures and seminars, and developing a good reputation for providing high quality care, to name a few—then there is no basis for the predicate that must be satisfied for the plaintiffs' theory of competitive harm to have merit, which is that the plaintiffs have been foreclosed or denied access to a substantial set of new patients.

[23] See the notes of Dr. Eisenstadt as they appear in "Copy of Kotsubo cancer patient database 5.7.06.de notes.xls."

## IV. CONCLUSIONS

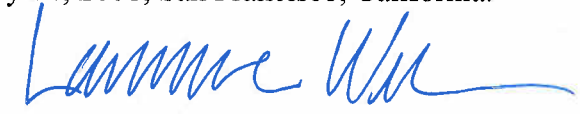
28. Based on the research I have done to date and an analysis that is predicated on certain undisputed facts and facts that the plaintiffs have claimed are true regarding the structure of the market, my conclusions with respect to the questions that I was asked to address in this report are as follows:

29. First, there is no factual or economic basis for the premise that the alleged conduct has harmed the process of competition. HCBCG is and has been successful in serving new and existing pediatric hem-onc patients in Hawai`i, which means the group is and has been a new source of competition for KMS' pediatric hem-onc specialists since it was formed. Without evidence that HCBCG is likely to exit the market, there is no economic basis for the plaintiffs' claim that the alleged conduct has impaired or compromised the nature of competition in the market for pediatric hem-onc physician services.

30. Second, even if it is assumed to be true that KMCWC and KMS had taken steps to deny HCBCG access to new pediatric hem-onc patients that arrived at KMCWC without the name of a specific pediatric hematology-oncologist, it is unlikely that the alleged anticompetitive conduct could be the source of competitive harm. That is because most of the patients seen by HCBCG would not have been affected by the alleged misconduct. In addition, the alleged misconduct did not in any way prevent HCBCG from competing for direct referrals from pediatricians and physicians generally. Because HCBCG's ability to compete and attract new patients has not been compromised, it is implausible that the alleged misconduct could lead to antitrust injury and harm to competition.

Pursuant to Rule 7(g) of the Rules of the Circuit Courts, I declare under penalty of law that the foregoing statements are true and correct.

Dated: February 14, 2008, San Francisco, California.



Lawrence Wu, Ph.D.

**EXHIBIT 1**

NERA
Economic Consulting

**Lawrence Wu**
Senior Vice President

National Economic Research Associates, Inc.
1 Front St., Suite 2600
San Francisco, California 94111
+1 415 291 1000 Fax +1 415 291 1020
Direct dial: +1 415 291 1007
lawrence.wu@nera.com
www.nera.com

# LAWRENCE WU
## SENIOR VICE PRESIDENT

Dr. Wu specializes in the economics of antitrust and competition policy. He has testified in US district courts and submitted analyses to the US Federal Trade Commission (FTC), US Department of Justice (DOJ), European Commission, Competition Tribunal of South Africa, and Brazil's competition authority (CADE).

Dr. Wu's antitrust practice focuses on the analysis of mergers, price fixing, and other competitive issues in a variety of retail, manufacturing, and service industries. He is particularly experienced in assessing competition in a wide range of health care markets, including hospital services, health insurance, physician services, and various medical technologies. His expertise includes the application of econometric and statistical methods, the design and economic analysis of consumer survey data, and merger simulation.

Dr. Wu's recent work includes the analysis of proposed mergers in a variety of industries from pipelay services to LED lighting systems. He has also been retained as an economic expert in antitrust litigation to assess issues related to liability and damages. For example, he has computed damages in alleged price fixing matters and has assessed the competitive implications of exclusive contracts, tying, bundling, and vertical integration.

In the area of intellectual property, he has written and consulted on issues involving patent pools. In addition, he has given a number of presentations on standard setting and on the use of benchmarks in a reasonable royalty analysis.

Dr. Wu has studied a wide range of industries, including ambulance services, bakeware, cookware, blood testing instruments and supplies, bronze memorials and other commemorative products, cardiac medical devices, carton sealing tape, clinical diagnostic tests and testing equipment, compact discs, diagnostic imaging equipment, dialysis services, DRAM (dynamic random access memory) chips and modules, ferrous scrap, glass beverageware, health insurance, hospital services, lamps and lighting, mattresses, outdoor advertising, patient monitoring equipment, orthopedic products, physician services, pipelay services, printers and printing supplies, ski resorts, and smokeless tobacco.

He is frequently invited to speak at conferences and seminars, and his recent presentations have been on topics such as the competitive importance of products in the R&D pipeline, joint ventures, European merger enforcement, retrospective merger reviews, prescription drug reimportation, and new developments in health care antitrust. Dr. Wu is the editor of two books on the economics of antitrust and has published articles in *The Antitrust Bulletin*, *Antitrust Report*, *European Competition Law Review*, *Journal of Business Venturing*, and *Medical Care*. His research interests are in the areas of industrial organization, health economics, and antitrust.

Dr. Wu earned his PhD in economics from the University of Chicago Graduate School of Business and his BA in economics from Stanford University. Prior to joining NERA, he was a staff economist in the FTC's Bureau of Economics.

## Education

**University of Chicago, Graduate School of Business**
Ph.D., Economics, 1992

**Stanford University**
B.A., Economics, 1986

## Professional Experience

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|---|---|
| | **NERA Economic Consulting** |
| 1996- | Senior Vice President (current position) |
| | **Federal Trade Commission, Bureau of Economics, Division of Antitrust** |
| 1992-1996 | Economist |
| | **New York University, Robert F. Wagner Graduate School of Public Service** |
| Spring 1997 | Adjunct Assistant Professor of Public Health Administration |
| | **University of Chicago, Department of Economics** |
| Fall 1991 | Lecturer |
| | **American Hospital Association, Division of Economic Analysis** |
| 1990-1991 | Research Analyst |
| | **Federal Reserve Bank of New York, Banking Studies Department** |
| 1986-1987 | Research Assistant |

## Honors and Professional Activities

Section of Antitrust Law, American Bar Association:

Member, Competitiveness Task Force, 2007

Vice Chair, Economics Committee, 2003-2006

Member, Exemptions and Immunities Task Force, 2003-2004

Member, American Economic Association

Member, Western Economic Association

Member, Section of Antitrust Law, American Bar Association

Member, The Antitrust and Unfair Competition Law Section, State Bar of California

Federal Trade Commission Award for Meritorious Service, March 1996

Great American Cookie Company Grant and Fellowship, International Franchise Association Educational Foundation, 1990

University of Chicago Fellowship, 1987-1989

## Expert Reports and Testimony

Declarations on behalf of the defendants in ***The City of New York v. Group Health Incorporated, HIP Foundation, Inc., and Health Insurance Plan of Greater New York,*** United States District Court for the Southern District of New York (Case No. 06 Civ. 13122 (KMK) (RME)). Declarations: March 6, 2007 and November 9, 2007.

Deposition on behalf of St. Joseph's Hospital in connection with ***St. Joseph's Hospital, Inc., d/b/a St. Joseph's Hospital v. Agency for Health Care Administration, et. al.,*** Case No. 05-2754, State of Florida, Division of Administrative Hearings. Deposition: September 25, 2007.

Deposition testimony and report on behalf of the plaintiff in ***American Medical Response Inc. v. City of Stockton***, United States District Court in and for the Eastern District of California (Civil Action No. 2:05-CV-01316 DFL-EFB). Deposition: January 19, 2007. Report: November 2, 2006.

Deposition testimony and report on behalf of the defendants in connection with ***Chemed Corporation v. PCI Holding Corporation, et al., v. Vitas Healthcare Corp.***, Superior Court of the Commonwealth of Massachusetts (Civil Action No. 04-2354-BLS2). Deposition: June 30, 2006. Report: November 30, 2005.

Expert report on behalf of Sharp Community Medical Group, Inc. in connection with ***San Diego Physicians Medical Group, Inc. v. Sharp Community Medical Group Inc.,*** Superior Court of the State of California for the County of San Diego Central (Case No. GIC 862275). Report: April 14, 2006.

Deposition testimony and reports on behalf of the defendants in connection with ***East Portland Imaging Center, P.C., and Body Imaging, P.C., v. Providence Health System-Oregon, Providence Health Plan, Portland Medical Imaging, LLP, Radiology Specialists of the Northwest, P.C., Center for Medical Imaging, LLP and Advanced Medical Imaging, LLC,*** United States District Court for the District of Oregon (Case No. 05-CV-465-KI). Reports: June 1 and November 1, 2005. Deposition: November 22, 2005.

Testimony before the Provider Reimbursement Review Board, Centers for Medicare and Medicaid Services, in ***St. David's Healthcare System v. Blue Cross Blue Shield Association/Trailblazer Health Enterprises, LLC***, Exception to Related Organization Principle, PRRB Case No. 95-0315G. Testimony: September 29, 2005.

Expert report on behalf of Regence Blue Shield of Idaho, Inc. in connection with Government Employees Medical Plan and Mutual Insurance Associates, Inc. v. Regence Blue Shield of Idaho, Inc. and Blue Cross of Idaho Health Services, Inc., United States District Court for the District of Idaho (Case No. CIV 04-284-E-BLW). Report: May 16, 2005.

Expert reports on behalf of Johnson Controls, Inc. Report was submitted in connection with ***George Yardley Co. and Yardley-Zaretsky, Inc. v. Johnson Controls, Inc., et al.*** (American Arbitration Association, Case No. 72 110 01086 02 HLT). Reports: October 4 and December 1, 2004.

Expert report on behalf of Business Venture Investments No. 790 (PTY) Limited and Afrox Healthcare Limited. Report was submitted to the Competition Tribunal of South Africa in connection with Case No. 76/LM/DEC 03. Report: July 1, 2004.

Expert report on behalf of Nestlé in connection with Nestlé's proposed acquisition of Chocolates Garoto, S.A. Report was submitted to Brazil's competition authority, CADE (Conselho Administrativo de Defesa Econômica), in connection with the agency's review of the proposed transaction. Report: December 3, 2003.

Deposition testimony and expert report on behalf of the defendants in connection with ***EasCare, LLC v. Cape Cod Healthcare, Inc. and Cape Cod Medical Enterprises, Inc. d/b/a Cape Cod Ambulance and Medical Services Ambulance,*** United States District Court for the District of Massachusetts (Civil Action No. 02-11460-RWZ). Report: July 25, 2003. Deposition: September 11-12, 2003.

Statement on the Analysis of Entry in Health Insurance Markets. Prepared for the Federal Trade Commission and the Department of Justice Hearings on Health Care and Competition Law and Policy, Washington, D.C., April 24, 2003.

Statement on the Analysis of Competitive Effects in Health Insurance Markets. Prepared for the Federal Trade Commission and the Department of Justice Hearings on Health Care and Competition Law and Policy, Washington, D.C., April 23, 2003.

Statement on the Analysis of Hospital Post-Merger Conduct. Prepared for the Federal Trade Commission and the Department of Justice Hearings on Health Care and Competition Law and Policy, Washington, D.C., April 23, 2003.

Deposition and trial testimony on behalf of Naples Community Hospital in connection with *Collier HMA, Inc.'s Certificate of Need Application (CON #9551)*, State of Florida, Division of Administrative Hearings. Deposition and trial testimony: February 11 and March 18, 2003.

Statement before the Federal Trade Commission on Health Insurance: Payor/Provider Issues. Prepared for the Federal Trade Commission Workshop on Health Care and Competition Law and Policy, Washington, D.C., September 9, 2002.

Deposition testimony and expert report on behalf of three defendants (suppliers of biotin) in connection with *In re: Vitamins Antitrust Litigation*, United States District Court for the District of Columbia (M.D.L. Docket No. 1285). Report: June 28, 2002. Deposition: August 26, 2002.

Deposition and trial testimony on behalf of LifePath, Inc. in connection with *LifePath, Inc. v. Agency for Health Care Administration and Hernando-Pasco Hospice, Inc.,* Case Nos. 00-3203 *et seq.*, State of Florida, Division of Administrative Hearings. Deposition and trial testimony: June 29 and August 7, 2002.

Deposition and trial testimony and expert report on behalf of the defendants in the matter of *Federal Trade Commission v. Swedish Match North America, Inc., et al.,* United States District Court for the District of Columbia (No. 1:00-CV-001501 TFH). Reports: July 28 and August 15, 2000. Deposition and trial testimony: August 16 and September 7-8, 2000.

Expert report on behalf of Aetna U.S. Healthcare in connection with Aetna U.S. Healthcare's proposed acquisition of Prudential Health Care Plan, Inc. before the Department of Insurance of the State of Georgia. Report: May 19, 1999.

Oral testimony and expert report on behalf of Aetna U.S. Healthcare in connection with Aetna U.S. Healthcare's proposed acquisition of Prudential Health Care Plan, Inc. before the Department of Banking and Insurance and the Department of Health and Senior Services of the State of New Jersey. Testimony: April 9, 1999.

Deposition and trial testimony and expert report on behalf of the plaintiff in the matter of *Federal Trade Commission and State of Missouri v. Tenet Healthcare Corporation and Poplar Bluff Physician's Group, Inc.*, United States District Court for the Eastern District of Missouri (No. 4:98-CV-709 CDP). Report: May 20, 1998. Deposition: June 2, 3, and 5, 1998. Trial: June 23 and 26, 1998.

Deposition testimony and expert report on behalf of the defendants in connection with ***William G. Marshall, Jr., M.D., v. Edward Planz, M.D. and Southeastern Cardiovascular Associates, P.C.***, United States District Court for the Middle District of Alabama (No. CV-97-T-793-S). Report: March 16, 1998. Deposition: May 22, 1998.

Deposition and trial testimony on behalf of the Federal Trade Commission ***in the Matter of International Association of Conference Interpreters***. Docket Number 9270, Federal Trade Commission administrative proceeding. Deposition and trial testimony: January 1996.

## Publications

Gregory K. Leonard and Lawrence Wu, "Assessing the Competitive Effects of a Merger: Empirical Analysis of Price Differences Across Markets and Natural Experiments," ***Antitrust***, Vol. 22, No. 1, Fall 2007, pp. 96-101.

Paul Lugard, John Taladay, and Lawrence Wu, "Comments on Draft EC Guidelines on the Assessment of Non-Horizontal Mergers Under the Council Regulation on the Control of Undertakings Between Undertakings," on behalf of the International Chamber of Commerce, Commission on Competition. Submitted to the European Commission, May 13, 2007 (at http://ec.europa.eu/comm/competition/mergers/legislation/files_non_horizontal_consultation/icc.pdf).

Paul Hofer, Mark Williams, and Lawrence Wu, "The Economics of Market Definition Analysis in Theory and in Practice," ***The Asia Pacific Antitrust Review 2007***, Global Competition Review, May 2007, pp. 10-13.

***Economics of Antitrust: Complex Issues in a Dynamic Economy***, ed. Lawrence Wu (White Plains, NY: NERA Economic Consulting, 2007).

Paul Lugard, Lawrence Wu, Ilene Gotts, John Taladay, Eileen Reed, and Doris Hildebrand, "Comments on the Church Report and its Implications for Non-Horizontal Merger Guidelines," a report to the European Commission on behalf of the International Chamber of Commerce, September 13, 2006 (at http://www.iccwbo.org/uploadedFiles/ICC/policy/competition/Statements/CommentsChurchReport13Sept06.pdf).

Christian Dippon, Gregory Leonard, and Lawrence Wu, "Application of Empirical Methods in Merger Analysis," a chapter in a Japan Fair Trade Commission Competition Policy Research Center report titled ***Merger Investigation and Economic Analysis***, November 2005, pp. 108-155.

Alan J. Daskin and Lawrence Wu, "Observations on the Multiple Dimensions of Market Power," ***Antitrust***, Vol. 19, No. 3, Summer 2005, pp. 53-58. (Also see Chapter 11 in ***Economics of Antitrust: Complex Issues in a Dynamic Economy***, ed. Lawrence Wu (White Plains, NY: NERA Economic Consulting, 2007), pp. 137-153.)

Lawrence Wu and Thomas R. McCarthy, "Essential Issues in the Competitive Analysis of Patent Pools," in *Economic Approaches to Intellectual Property Policy, Litigation, and Management*, ed. Gregory K. Leonard and Lauren J. Stiroh (White Plains, NY: NERA Economic Consulting, 2005), pp. 233-249.

Robert Skitol and Lawrence Wu, "A Transatlantic Swim through Patent Pools: Keeping Antitrust Sharks at Bay," in *On the Merits: Current Issues in Competition Law and Policy, Liber Amicorum Peter Plompen*, ed. Paul Lugard and Leigh Hancher (Antwerpen-Oxford: Intersentia, 2005), pp. 103-116.

Lawrence Wu, "Innovation in the Coronary Stent Industry: A Note on the Competitive Importance of Products in the R&D Pipeline," prepared for the 2005 Antitrust in Healthcare Conference sponsored by the ABA Antitrust Law and Health Law Sections and the American Health Lawyers Association, Washington, D.C., May 2005.

Paul Hofer, Patrick Smith, and Lawrence Wu, "Quantitative Techniques in Competition Policy Analysis," *The Asia Pacific Antitrust & Trade Review 2005*, Global Competition Review, April 2005, pp. 13-16.

Lawrence Wu and Rika Mortimer, "Competition Policy Challenges in Innovative Health Care Markets," prepared for the 6th Annual Conference on Emerging Issues in Healthcare Law sponsored by the ABA Health Law Section, Lake Buena Vista, Florida, February 2005.

Lawrence Wu and Rika Mortimer, "Competition and Innovation in Health Care Markets and their Implications for Antitrust Enforcement," *Antitrust Health Care Chronicle*, Vol. 18, No. 4, Winter 2005, p. 3, 12-16.

Paul Hofer, Mark Williams, and Lawrence Wu, "Principles of Competition Policy Economics," *The Asia Pacific Antitrust Review 2004*, Global Competition Review, April 2004, pp. 4-7.

*Economics of Antitrust: New Issues, Questions, and Insights*, ed. Lawrence Wu (White Plains, NY: NERA Economic Consulting, 2004).

Lawrence Wu, "Two Methods of Determining Elasticities of Demand and Their Use in Merger Simulation," in *Economics of Antitrust: New Issues, Questions, and Insights*, ed. Lawrence Wu (White Plains, NY: NERA Economic Consulting, 2004), pp. 21-33. (Previously published in *Antitrust Insights*, NERA Economic Consulting, January/February 2003.)

Lawrence Wu, Paul Hofer, and Mark Williams, "The Increasing Use of Empirical Methods in European Merger Enforcement: Lessons from the Past and a Look Ahead," in *Economics of Antitrust: New Issues, Questions, and Insights*, ed. Lawrence Wu (White Plains, NY: NERA Economic Consulting, 2004), pp. 71-83. (Originally prepared for the UCLA Law First Annual Institute on U.S. and E.U. Antitrust Aspects of Mergers and Acquisitions, Los Angeles, California, February 28, 2004.)

Lawrence Wu, "Economic Aspects of an Analysis of Hospital Post-Merger Pricing and Conduct," prepared for the 2003 Antitrust in Healthcare Conference sponsored by the ABA Health Law Section and Section of Antitrust Law and the American Health Lawyers Association, Washington, D.C., May 15-16, 2003.

Lawrence Wu, "The Economic Analysis of Mergers After *Daubert*," *The Economics Committee Newsletter*, American Bar Association Section of Antitrust Law, Economics Committee, Vol. 1, No. 1, Spring, 2001, p. 16-20.

Robert E. Bloch, Scott P. Perlman, and Lawrence Wu, "A New and Uncertain Future for Managed Care Mergers: An Antitrust Analysis of the Aetna/Prudential Merger," *Antitrust Report*, October 1999, pp. 37-61.

Thomas R. McCarthy, Scott J. Thomas, and Lawrence Wu, "Efficiencies Analysis in Hospital Mergers," in *Antitrust and Healthcare Insights into Analysis and Enforcement*, American Bar Association, 1999, pp. 119-149. (A similar version appeared in the *Antitrust Health Care Chronicle*, Vol. 13, No. 1, Winter 1999, pp. 2-11.)

Lawrence Wu, "The Pricing of a Brand Name Product: Franchising in the Motel Services Industry," *Journal of Business Venturing*, Vol. 14, No. 1, January 1999, pp. 87-102.

Lawrence Wu, "The Evidence Is In: A Review of the Market Definition Debate in Hospital Merger Cases," *Antitrust Report*, November 1998, pp. 23-41.

Simon Baker and Lawrence Wu, "Applying the Market Definition Guidelines of the European Commission," *European Competition Law Review*, Vol. 19, No. 5, June 1998, pp. 273-280.

Lawrence Wu and De-Min Wu, "Measuring the Degree of Interindustry Competition in U.S. v. Continental Can," *The Antitrust Bulletin*, Vol. XLII, No. 1, Spring 1997, pp. 51-84.

David Dranove, William D. White, and Lawrence Wu, "Segmentation in Local Hospital Markets," *Medical Care*, Vol. 31, No. 1, January, 1993, pp. 52-64.

## Invited Presentations

"Fundamentals of Health Care Antitrust Economics." Faculty presenter on the program, which was sponsored by the American Bar Association, Antitrust Section, Economics and Health Care and Pharmaceuticals Committees, Washington, DC, November 8, 2007.

"Mock Trial on Patent Damages." Participant in a mock trial on reasonable royalty damages at an intellectual property seminar for Chinese judges sponsored by Stanford Law School, Stanford Program in Law, Science & Technology, August 16, 2007.

"Trial Preparation: Not Just for Outside Counsel." Speech presented at the 54th Annual Spring Meeting of the ABA Section of Antitrust Law, Washington, DC, March 29, 2006.

"Patent Pools and Standard Setting – an Economic Perspective." Speech presented before the Antitrust Law Section of the Minnesota State Bar Association, Minneapolis, Minnesota, October 25, 2005.

"Hot Topics in Healthcare Antitrust: Market Definition." Speech presented at the 2005 Antitrust in Healthcare conference, co-sponsored by the ABA Antitrust Law and Health Law Sections and the American Health Lawyers Association, Washington, DC, May 12, 2005.

"Protecting Competition or Protecting Competitors? Antitrust Issues for Plans and Providers." Speech presented at the 2005 Law Conference on Health Insurance Plans: Bridging the Gap between Providers and Insurers, co-sponsored by America's Health Insurance Plans and the American Health Lawyers Association, Colorado Springs, Colorado, May 3-4, 2005.

"Is Competition the Answer: Did DOJ and FTC Get it Right, or Does Regulation Still Serve its Purpose in Healthcare?" Participant on a panel discussion at the 6th Annual Conference on Emerging Issues in Healthcare Law sponsored by the ABA Health Law Section, Lake Buena Vista, Florida, February 24, 2005.

"The Ninth Circuit's Recent Decision in *Dagher v. Saudi Refining Inc.*" Participant on a panel discussion on joint ventures sponsored by the American Bar Association, Antitrust Section, Sherman Act Section 1 and Section 2 Committees, Washington, DC, October 26, 2004.

"Forces Shaping the Next Era in Health Care and their Economic Impact on Hospitals." Invited keynote speaker at the Mercer Human Resource Consulting and Marsh USA, Inc. Fifth Annual Hospital Management Seminar, Portland, Oregon, October 4, 2004.

"Antitrust and Health Care: Assessing Issues for California and the United States." Invited speaker at a conference sponsored by the Nicholas C. Petris Center on Health Care Markets and Consumer Welfare at the University of California, Berkeley, California, April 30 – May 1, 2004.

"An Economic Perspective on Business Practices with 'Billion Dollar' Price Tags." Speech presented at the Antitrust Law Committee Forum, "Antitrust and Distribution: How to Avoid the Billion Dollar Judgment," at the Spring Meeting of the ABA Section of Business Law, Seattle, Washington, April 3, 2004.

"The Increasing Use of Empirical Methods in European Merger Enforcement: Lessons from the Past and a Look Ahead." Speech presented at the UCLA Law First Annual Institute on U.S. and E.U. Antitrust Aspects of Mergers and Acquisitions, Los Angeles, California, February 28, 2004.

"Rx/OTC Switches and Prescription Drug Reimportation: Consequences for Consumers." Speech presented at the New York State Bar Association Annual Meeting, Food, Drug and Cosmetic Law Section, New York, New York, January 29, 2004.

"Forces Shaping the Next Big Idea in Health Care." Speech presented at the Marsh Healthcare Forum, Colorado Springs, Colorado, September 9, 2003.

"Economic Perspectives on Retrospective Reviews of Healthcare Mergers." Speech presented at the Antitrust in Healthcare Conference sponsored by the ABA Health Law Section and Section of Antitrust Law and the American Health Lawyers Association, Washington, D.C., May 15-16, 2003.

"The Sixth Circuit's Recent Decision in *Conwood Co., L.P. et al. v. United States Tobacco Co., et al.*" Participant on a panel discussion sponsored by the American Bar Association, Antitrust Section, Sherman Act Section 2 Committee, July 17, 2002.

"Getting a Fix on *FTC v. Libbey, Inc., et al.*" Speech presented at a seminar sponsored by the Antitrust Committee of the Boston Bar Association, March 8, 2002.

"The Brave New World for Managed Care Mergers: The *Aetna/Prudential* Merger." Speech presented at the 11th Annual Managed Care Law Conference, co-sponsored by the American Association of Health Plans and the American Bar Association, Kiawah Island, South Carolina, May 1, 2000.

"The Analysis of Product Market Definition and Entry in the *Aetna/Prudential* Transaction." Speech presented at a health care antitrust conference sponsored by the American Health Lawyers Association, Arlington, Virginia, February 17-18, 2000.

"The New Challenge for Mergers of Health Plans: What Does the *Aetna/Prudential* Decree Portend?" Speech presented at the Fifth Annual Health Care Antitrust Forum, Chicago, Illinois, October 22, 1999.

"Vertical Integration in Health Care." Speech presented at the 47th Annual Spring Meeting of the ABA Section of Antitrust Law, Washington, DC, April 14, 1999.

"Hospital Price Inflation: Will it Continue to Fall?" Speech presented at a conference presented by J&H Marsh & McLennan, Inc., St. Louis, Missouri, February 25, 1999.
"Using a Survey to Evaluate the Effect of Non-Infringing Alternatives on Patent Infringement Damages." Speech presented at NERA's Intellectual Property Seminar Series, Washington, DC, October 28, 1998, and New York, New York, June 3, 1998.

"An Introduction to the Economics of Hospital Merger Analysis." Speech presented at a health care antitrust conference sponsored by the Federal Trade Commission, the Missouri Attorney General, St. Louis University School of Law and the ABA Antitrust Section, St. Louis, Missouri, November 14, 1997.

"Using a Survey to Estimate the Price Sensitivity of Consumers." Speech presented at NERA's Second Annual Seminar on Merger Analysis, New York, New York, March 11, 1997.

"Hospital Merger Efficiencies: Passing on the Cost Savings to Consumers." Speech presented at a health care antitrust conference sponsored by the Federal Trade Commission, Denver, Colorado, October 25, 1996.

"The Role of Economics in a Bid-Rigging Investigation." Speech presented at the Antitrust Seminar, National Association of Attorneys General, Baltimore, Maryland, October 12, 1995.

## Selected Merger Experience

*Proctor & Gamble (P&G)*: reports and presentations to the Federal Trade Commission in connection with an acquisition involving over-the-counter heartburn products, 2006.

*Fresenius Medical Care and Renal Care Group*: reports and presentations to the Federal Trade Commission in connection with an acquisition of a national chain of kidney dialysis treatment centers in the US, 2005-2006.

*Evanston Northwestern Healthcare Corporation and Highland Park Hospital*: reports and presentations to the Federal Trade Commission in connection with a retrospective analysis of the competitive effects of a merger of two hospitals in the Chicago area, 2002-2004.

*General Electric Company and Instrumentarium Corporation*: reports and presentations to the Department of Justice and European Commission on behalf of a third party in connection with a proposed acquisition involving patient monitoring devices, 2003.

*Libbey, Inc. and Anchor Hocking Glass Company*: report and presentations to the Federal Trade Commission in connection with a proposed acquisition in the glass beverageware industry, 2001-2002.

*Cytyc Corporation and Digene Corporation*: presentations to the Federal Trade Commission in connection with a proposed acquisition involving the sale of diagnostic test kits for the human papillomavirus (HPV), 2002.

*Philips Medical Systems and Agilent Technologies, Inc.*: report and presentations to the Department of Justice in connection with the proposed acquisition of Agilent's Healthcare Solutions Group by Philips Medical Systems. Both companies manufactured and sold cardiac ultrasound machines, 2000-2001.

*Tyco International Ltd. and Pulmonetic Systems, Inc.*: report and presentations to the Federal Trade Commission in connection with a proposed acquisition involving home care respiratory ventilators, 2001.

*Aetna U.S. Healthcare and Prudential Health Care Plan, Inc.*: reports and presentations to the Department of Justice in connection with a proposed acquisition in the health insurance industry, 1998-1999.

*Newell Rubbermaid, Inc. and Regal Ware, Inc.*: report to the Federal Trade Commission in connection with a proposed acquisition in the cookware industry, 1999.

*Intertape Polymer Group and Central Products Company*: report and presentation to the Federal Trade Commission in connection with a proposed acquisition involving carton-sealing tape, 1999.

*Arrow International, Inc. and C.R. Bard*: presentation to the Federal Trade Commission in connection with the acquisition of C.R. Bard's cardiac assist unit. Both companies manufactured and sold intra-aortic balloon pumps and catheters, 1998.

*Pacificare Health Systems, Inc. and FHP International Corporation*: presentations to the Federal Trade Commission in connection with an acquisition in the health insurance industry. Both firms offered Medicare managed care plans to seniors, 1996-1997.

*Vail Resorts, Inc. and Ralston Resorts, Inc.*: report and presentation to the Department of Justice in connection with an acquisition of ski resorts in Colorado, 1996.

## Selected Litigation Consulting Experience

*In re: DRAM Antitrust Litigation*: retained by counsel for Nanya Technology Corporation and Nanya Techonology Corp. USA to assess issues related to antitrust liability in connection with a nationwide class action suit brought by purchasers of DRAM (dynamic random access memory) chips and modules, in the United States District Court for the Northern District of California, 2006.

*In re: Cotton Yarn Antitrust Litigation*: retained by counsel for Parkdale America,LLC and Parkdale Mills, Inc. to estimate antitrust damages to a class of direct purchasers of cotton yarn in the United States, in the United States District Court for the Middle District of North Carolina, Greensboro Division, 2004-2005.

*In re: Managed Care Litigation*: retained by counsel for the defendants to assess issues related to antitrust liability in connection with a nationwide class action suit brought by physicians and medical societies against ten commercial health insurance plans, in the United States District Court for the Southern District of Florida, Miami Division, 2003-2005.

*In the Matter of Certain Recordable Compact Discs and Rewritable Compact Discs*: retained by counsel for Philips Electronics N.V. and U.S. Philips Corporation to assess the competitive issues surrounding the CD-R and CD-RW patent pools and allegations of patent misuse and injury to competition, in the US International Trade Commission, 2002-2003.

## Selected Industry Experience

Ambulance Services
Bakeware/Ovenware
Blood Testing Instruments and Supplies
Cardiac Medical Devices (e.g., Intra-Aortic Balloon Pumps and Catheters)
Cardiac Ultrasound Machines
Carton Sealing Tape

Chocolate Candies
Clinical Diagnostic Testing
Compact Discs
Cookware
Decorative Laminate Products (e.g., countertops)
Diagnostic Imaging Equipment
Dialysis Services
DRAM (dynamic random access memory) chips and modules
Ferrous Scrap
Fertilizer
Glass Beverageware
Health Insurance (e.g., HMOs and other managed care products)
Heating, Ventilation, and Air Conditioning Products
Hospice and Palliative Care
Hospital Beds
Hospital Services
Lamps and Lighting
Mattresses
Media Research
Methadone Maintenance Treatment
Microfiltration Products
Orthopedic Products
Outdoor Advertising
Over-the-Counter Prescription Drugs
Patient Monitoring Equipment and Anesthesia Machines
Physician Services (e.g., cardiovascular surgery, obstetrics, orthopedic)
Postage Meters
Pipelay Services
Printers and Printing Supplies (e.g., wide format printers)
Respiratory Ventilators
Ski Resorts
Smokeless Tobacco (loose leaf chewing tobacco)
Urinary Catheters
Vitamins

2/14/08

**EXHIBIT 2**

**List of Documents Relied Upon**

**Court Filings**

- Complaint, December 29, 2003.
- Second Amended Complaint, February 17, 2005.

**Documents Submitted by Dr. David M. Eisenstadt**

- Preliminary Opinions of David M. Eisenstadt, May 13, 2006.
- Report of David M. Eisenstadt, January 31, 2008.
- Deposition of David M. Eisenstadt, February 5, 2008.
- Annotated Database of Carol Kotsubo, "Copy of Kotsubo cancer patient database 5.7.06.de notes.xls"

**Data and Documents from HPH, KMS, or KMCWC**

- Fiscal Year 1999 to 2007 records of inpatient admissions and outpatient encounters at KMCWC, "PHO Summary FY99 to 06 with CCM Payor.xls."
- Fiscal Year 2007 records of inpatient admissions and outpatient encounters at KMCWC, "FY07 Comm Benefits - PHO_A55738 - A55930.xls"
- Records of inpatient admissions and outpatient encounters at KMCWC administered by Dr. Fryberger, "lf ped onc - tsi margin report by fryberger_A55931 - A55954.xls"
- Records of inpatient admissions and outpatient encounters at KMCWC administered by Dr. Fryberger, "lf pho-margin report fryberger-epic_A55955 - A55964.xls"

**Publicly Available Information**

- KMCWC Physician Directory, http://www.kapiolani.org/women-and-children/physician-directory/default.aspx. (Last accessed on February 12, 2008.)

## Number of Pediatric Hematology-Oncology Admissions/Encounters at KMCWC for the Top Six Attending Physicians

### Fiscal Years (FY) 2001 - 2007

**Inpatient Admissions**

| | FY 2001 | | FY 2002 | | FY 2003 | | FY 2004 | | FY 2005 | | FY 2006 | | FY 2007 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Rank** | **Physician** | **Admissions** | **Physician** | **Admissions** | **Physician** | **Admissions** | **Physician** | **Admissions** | **Physician** | **Admissions** | **Physician** | **Admissions** | **Physician** | **Admissions** |
| 1 | **Wilkinson** | **200** | **Woodruff** | **229** | **Woodruff** | **212** | Glaser | 181 | Glaser | 140 | **Wilkinson** | **154** | **Wilkinson** | **135** |
| 2 | **Woodruff** | **94** | **Wilkinson** | **157** | **Wilkinson** | **180** | **Woodruff** | **115** | **Wilkinson** | **127** | **Woodruff** | **129** | **Woodruff** | **130** |
| 3 | Glaser | 80 | Lau | 70 | Lau | 99 | **Wilkinson** | **110** | **Woodruff** | **106** | Glaser | 91 | Lau | 65 |
| 4 | Lau | 75 | Medeiros | 3 | Medeiros | 20 | Lau | 65 | Lau | 86 | Lau | 90 | Glaser | 60 |
| 5 | Medeiros | 39 | | | Glaser | 16 | Kyono | 18 | Fryberger | 43 | Fryberger | 79 | Fryberger | 53 |
| 6 | Kyono | 9 | | | Kyono | 4 | Medeiros | 13 | Kyono | 42 | Kyono | 62 | Kyono | 46 |

**Outpatient Encounters**

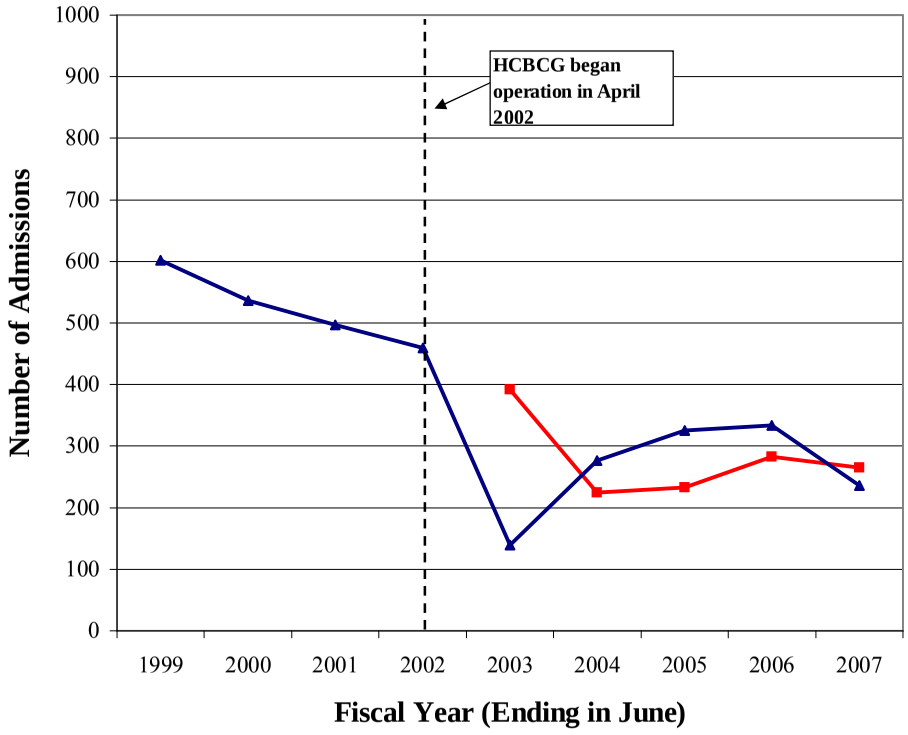
| | FY 2001 | | FY 2002 | | FY 2003 | | FY 2004 | | FY 2005 | | FY 2006 | | FY 2007 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Rank** | **Physician** | **Encounters** | **Physician** | **Encounters** | **Physician** | **Encounters** | **Physician** | **Encounters** | **Physician** | **Encounters** | **Physician** | **Encounters** | **Physician** | **Encounters** |
| 1 | **Woodruff** | **734** | Kyono | 1,280 | **Wilkinson** | **1,149** | Glaser | 1,368 | **Wilkinson** | **608** | **Wilkinson** | **774** | **Wilkinson** | **745** |
| 2 | **Wilkinson** | **621** | **Wilkinson** | **812** | **Woodruff** | **943** | **Woodruff** | **1,174** | **Woodruff** | **506** | Glaser | 485 | Glaser | 526 |
| 3 | Medeiros | 393 | Lau | 519 | Glaser | 638 | **Wilkinson** | **879** | Glaser | 465 | **Woodruff** | **416** | **Woodruff** | **477** |
| 4 | Glaser | 127 | Wada | 445 | Medeiros | 406 | Medeiros | 290 | Medeiros | 242 | Medeiros | 276 | Medeiros | 291 |
| 5 | Kyono | 48 | **Woodruff** | **172** | Wada | 308 | Lau | 29 | Lau | 53 | Kyono | 130 | Kyono | 124 |
| 6 | Lau | 38 | Medeiros | 99 | Lau | 96 | Fryberger | 1 | Kyono | 41 | Lau | 92 | Lau | 106 |

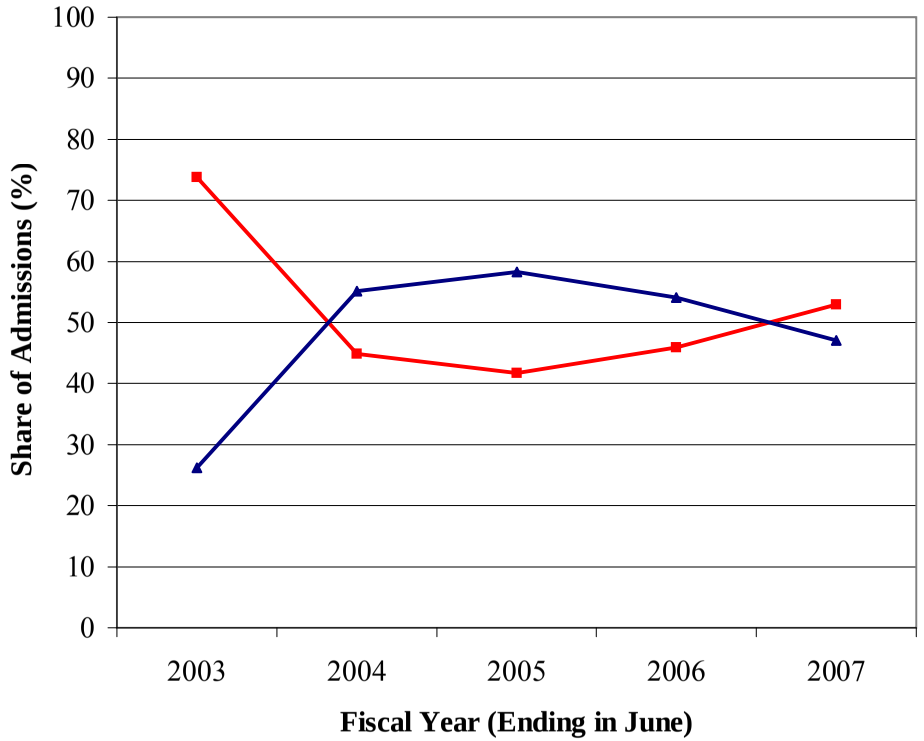
Note: Physicians ranked 7th or lower are not shown in the table.

For data from 2001 to 2004, each outpatient encounter corresponds to a unique date of service. For data from 2005 to 2007, each outpatient encounter corresponds to an account, which could incorporate multiple dates of service.

Source: HPH Data Production: "FY07 Comm Benefits - PHO_A55738 - A55930.xls," "lf ped onc - tsi margin report by fryberger_A55931 - A55954.xls," "lf pho-margin report fryberger-epic_A55955 - A55964.xls," "PHO Summary FY99 to 06 with CCM Payor.xls."

## Inpatient Pediatric Hematology-Oncology Admissions at KMCWC by Physician Group
## All Payors

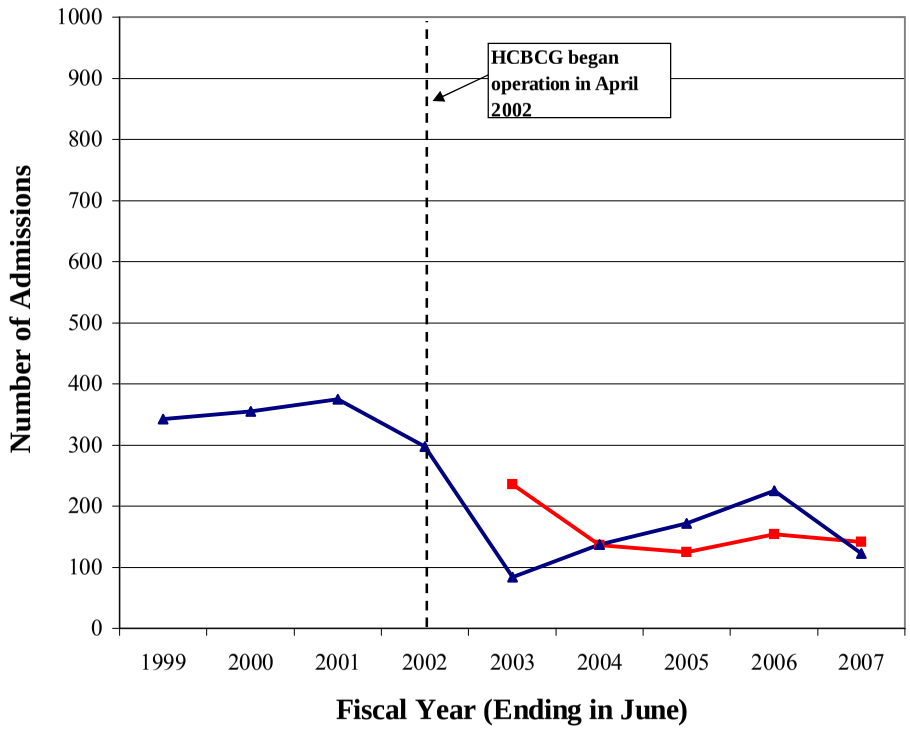


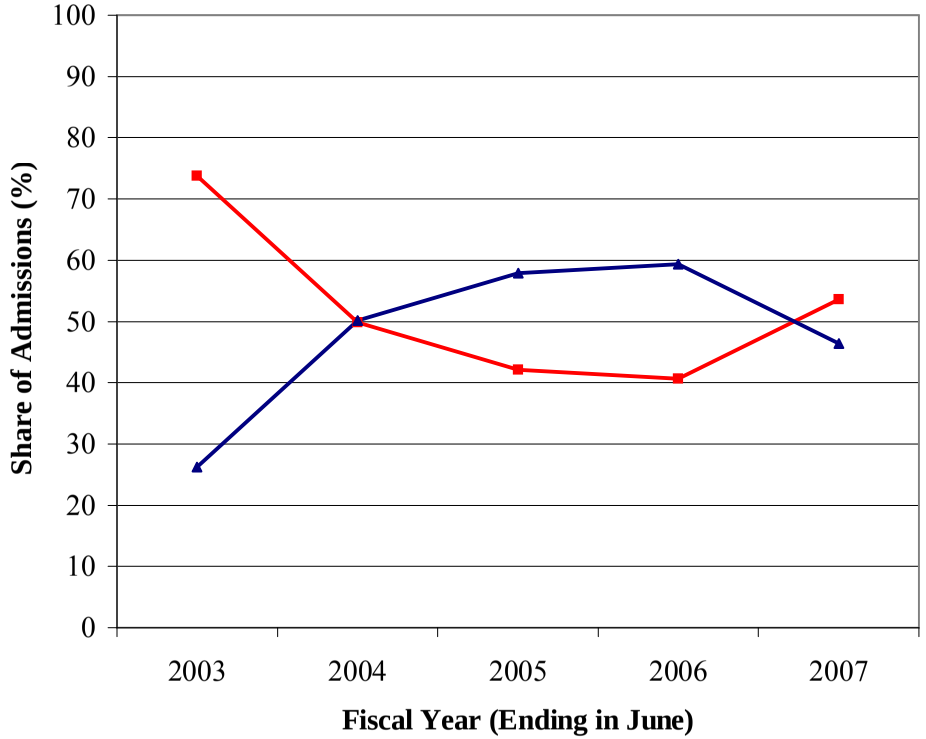




Hawai'i Children Blood and Cancer Group ("HCBCG") — Kapi'olani Medical Specialists ("KMS")

Source: HPH Data Production: "FY07 Comm Benefits - PHO_A55738 - A55930.xls," "lf ped onc - tsi margin report by fryberger_A55931 - A55954.xls," "lf pho-margin report fryberger-epic_A55955 - A55964.xls," "PHO Summary FY99 to 06 with CCM Payor.xls."

## Inpatient Pediatric Hematology-Oncology Admissions at KMCWC by Physician Group
## Commercial Payors Only

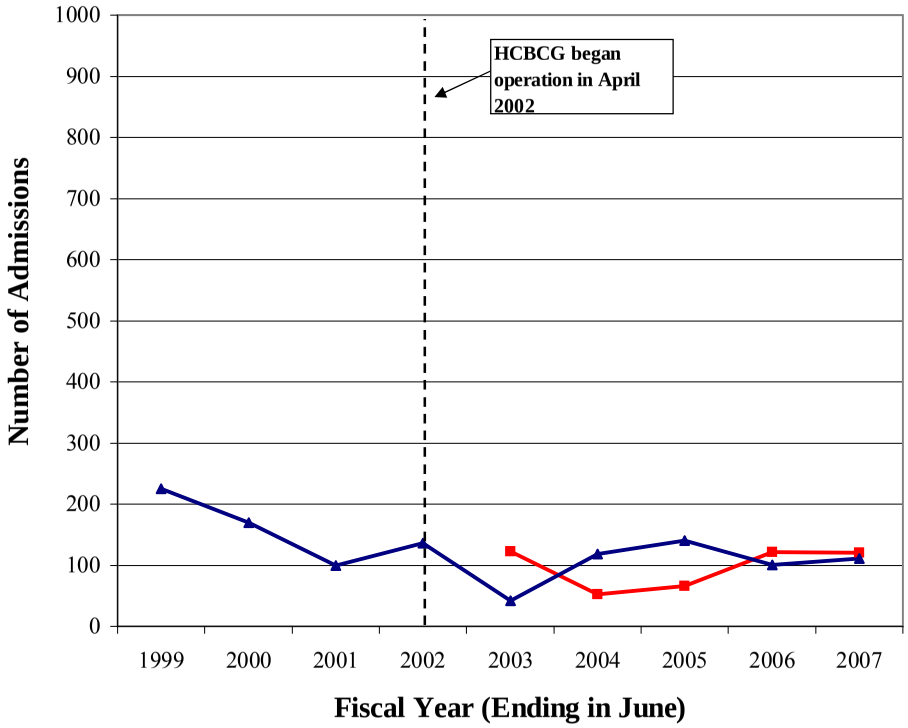


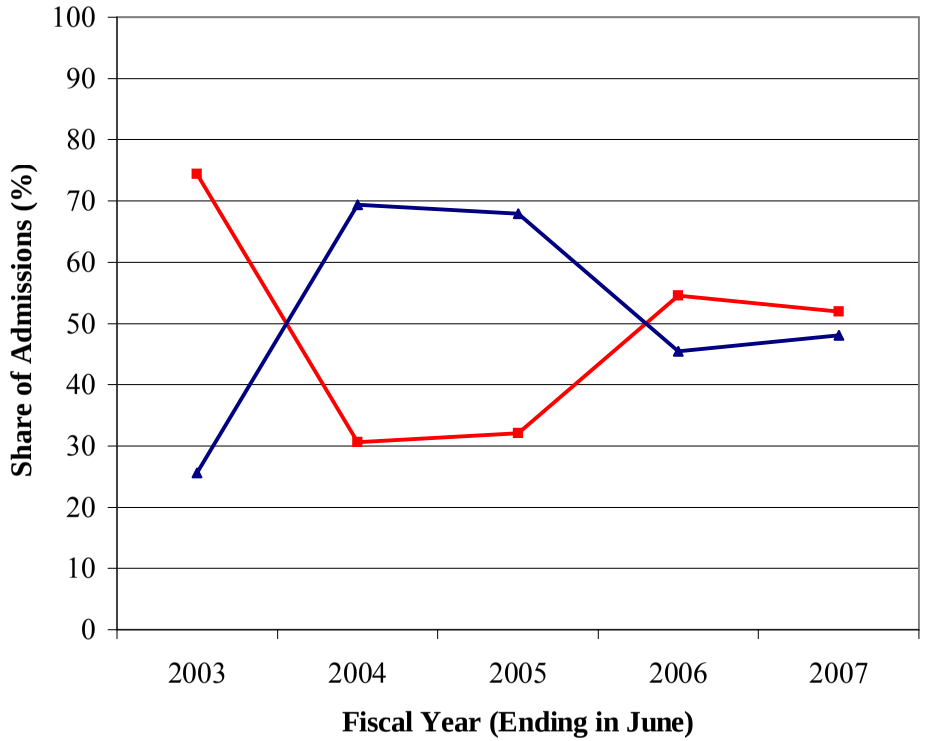




Hawai'i Children Blood and Cancer Group ("HCBCG") — Kapi'olani Medical Specialists ("KMS")

Source: HPH Data Production: "FY07 Comm Benefits - PHO_A55738 - A55930.xls," "lf ped onc - tsi margin report by fryberger_A55931 - A55954.xls," "lf pho-margin report fryberger-epic_A55955 - A55964.xls," "PHO Summary FY99 to 06 with CCM Payor.xls."

## Inpatient Pediatric Hematology-Oncology Admissions at KMCWC by Physician Group
## Medicare and Medicaid Only

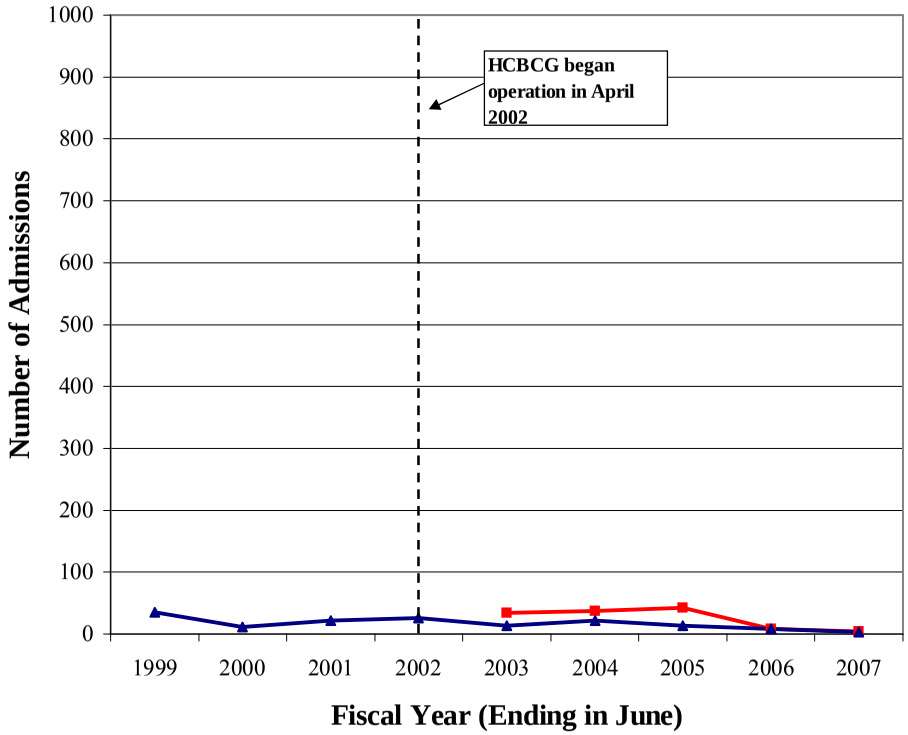


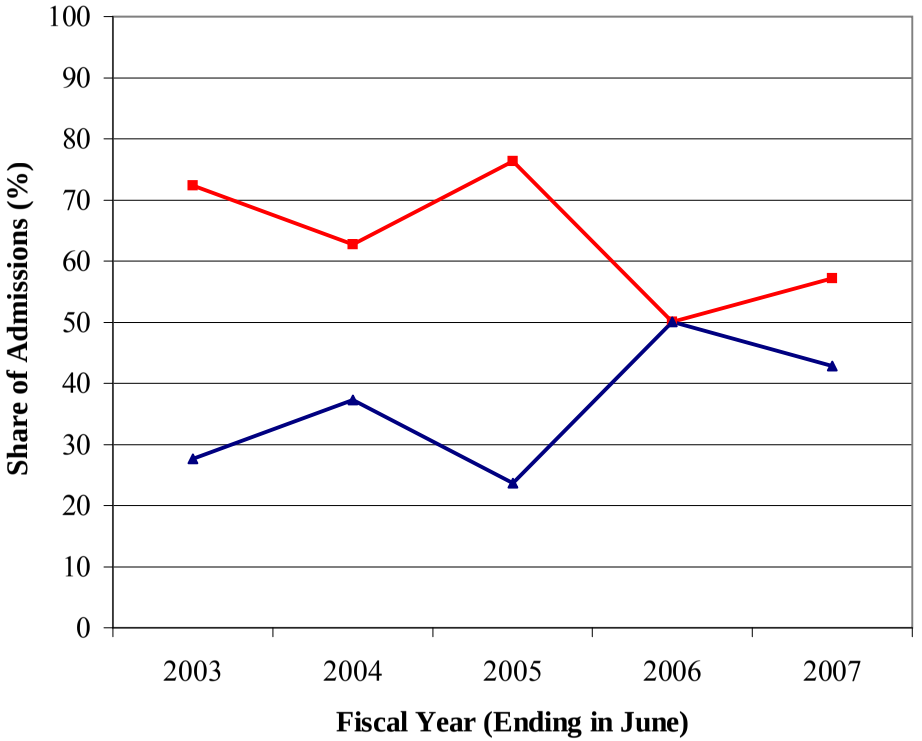




Hawai'i Children Blood and Cancer Group ("HCBCG") — Kapi'olani Medical Specialists ("KMS")

Source: HPH Data Production: "FY07 Comm Benefits - PHO_A55738 - A55930.xls," "lf ped onc - tsi margin report by fryberger_A55931 - A55954.xls," "lf pho-margin report fryberger-epic_A55955 - A55964.xls," "PHO Summary FY99 to 06 with CCM Payor.xls."

## Inpatient Pediatric Hematology-Oncology Admissions at KMCWC by Physician Group
## Other Non-Commercial Payors

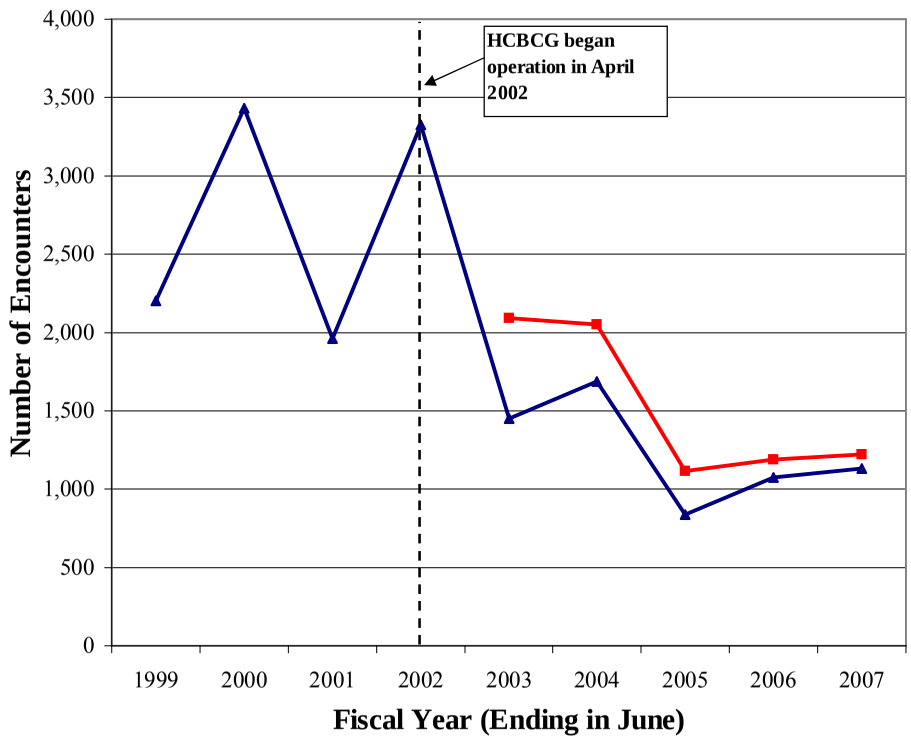


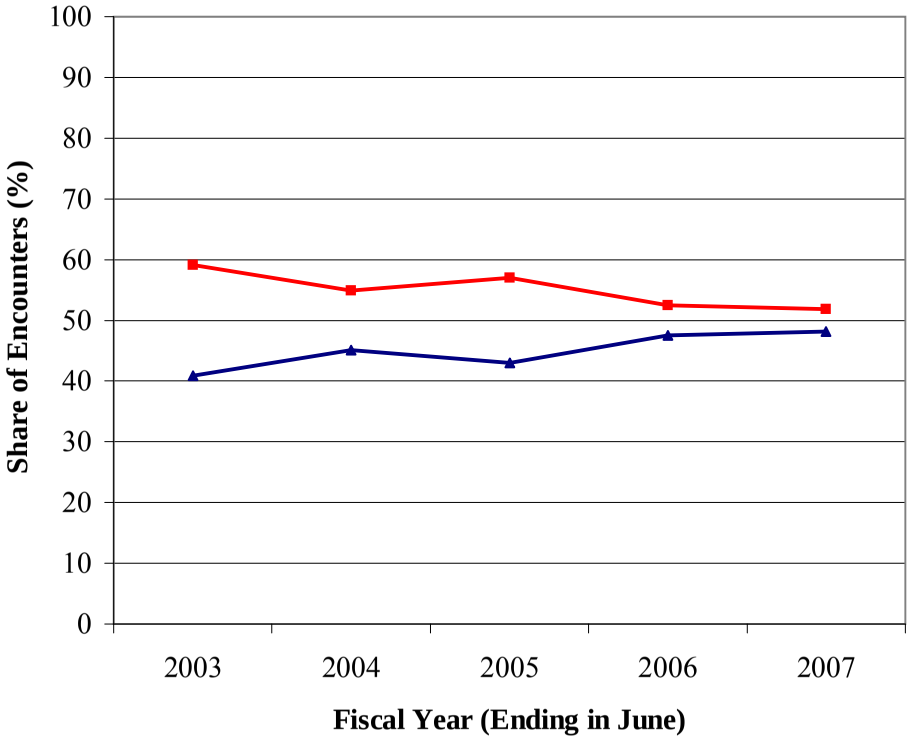




Hawai'i Children Blood and Cancer Group ("HCBCG") — Kapi'olani Medical Specialists ("KMS")

Source: HPH Data Production: "FY07 Comm Benefits - PHO_A55738 - A55930.xls," "lf ped onc - tsi margin report by fryberger_A55931 - A55954.xls," "lf pho-margin report fryberger-epic_A55955 - A55964.xls," "PHO Summary FY99 to 06 with CCM Payor.xls."

## Outpatient Pediatric Hematology-Oncology Encounters at KMCWC by Physician Group
## All Payors



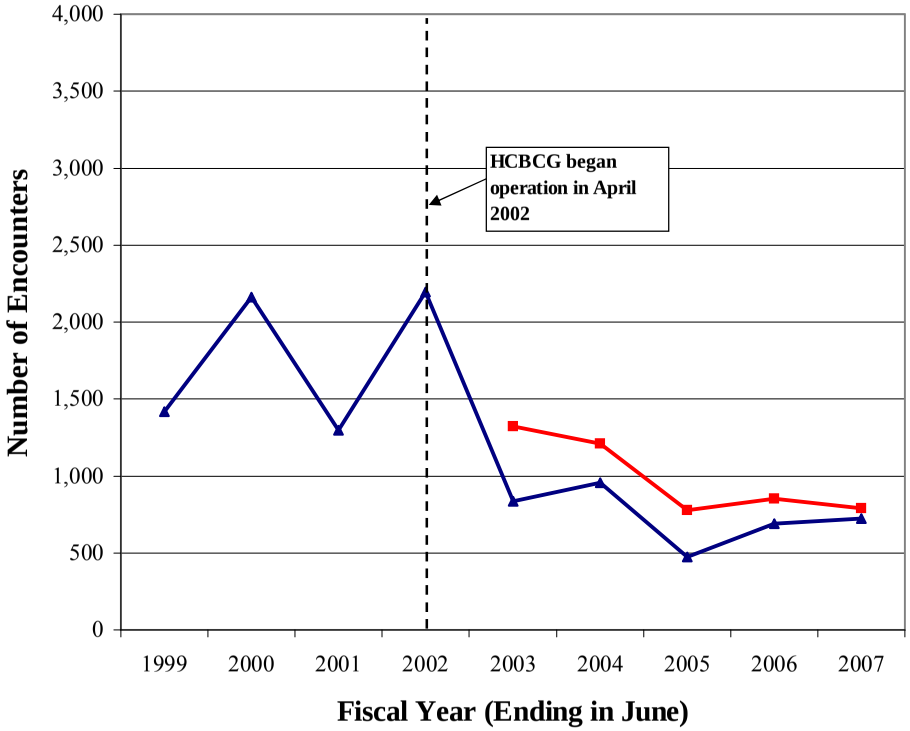



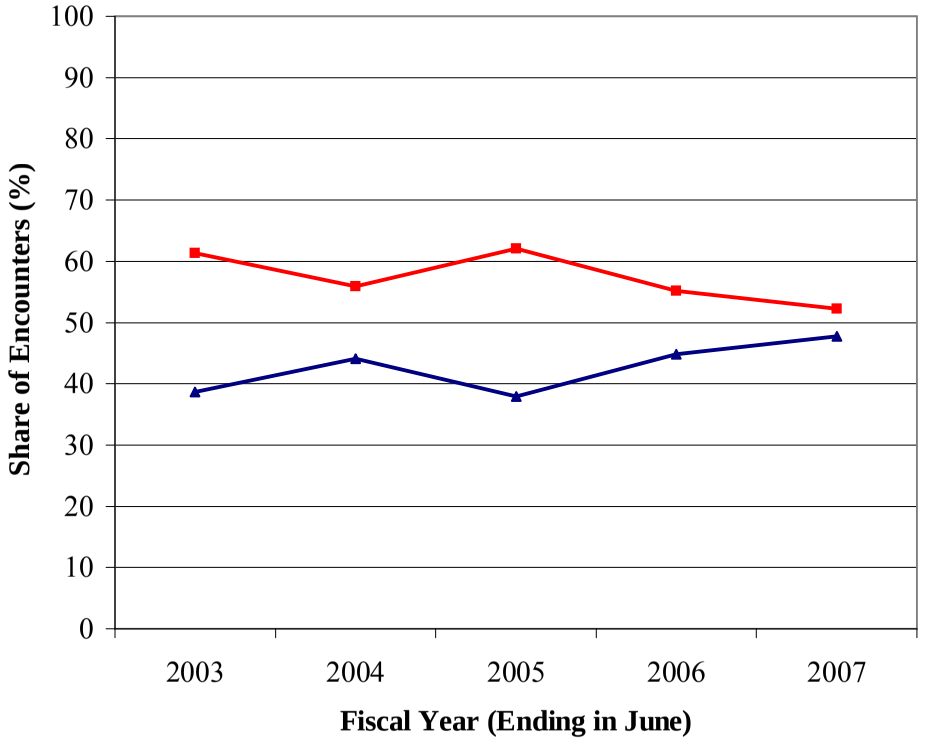

Hawai'i Children Blood and Cancer Group ("HCBCG") — Kapi'olani Medical Specialists ("KMS")

Note: For data from 1999 to 2004, each outpatient encounter corresponds to a unique date of service. For data from 2005 to 2007, each outpatient encounter corresponds to an account, which could incorporate multiple dates of service.

Source: HPH Data Production: "FY07 Comm Benefits - PHO_A55738 - A55930.xls," "lf ped onc - tsi margin report by fryberger_A55931 - A55954.xls," "lf pho-margin report fryberger-epic_A55955 - A55964.xls," "PHO Summary FY99 to 06 with CCM Payor.xls."

## Outpatient Pediatric Hematology-Oncology Encounters at KMCWC by Physician Group
## Commercial Payors Only




Hawai'i Children Blood and Cancer Group ("HCBCG") — Kapi'olani Medical Specialists ("KMS")

Note: For data from 1999 to 2004, each outpatient encounter corresponds to a unique date of service. For data from 2005 to 2007, each outpatient encounter corresponds to an account, which could incorporate multiple dates of service.

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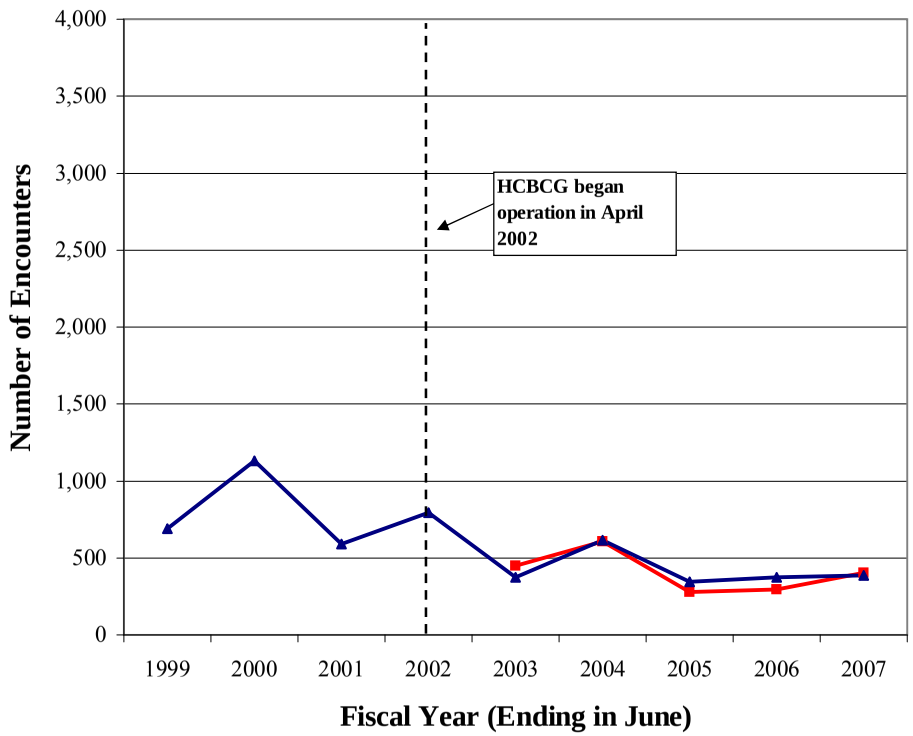
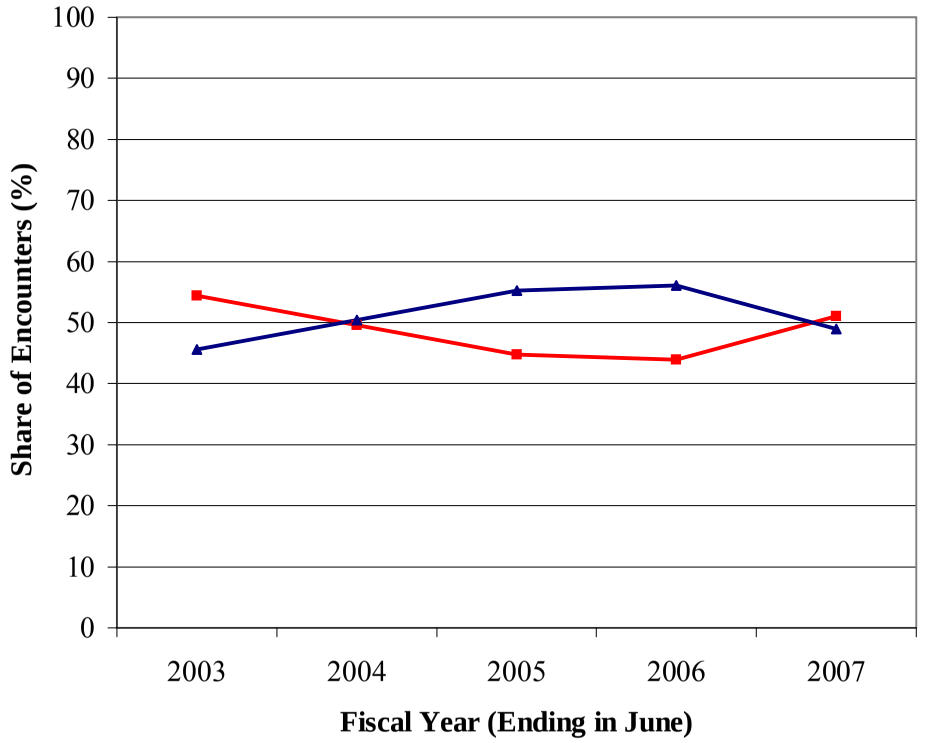
## Outpatient Pediatric Hematology-Oncology Encounters at KMCWC by Physician Group
## Medicare and Medicaid Only




Hawai'i Children Blood and Cancer Group ("HCBCG") — Kapi'olani Medical Specialists ("KMS")

Note: For data from 1999 to 2004, each outpatient encounter corresponds to a unique date of service. For data from 2005 to 2007, each outpatient encounter corresponds to an account, which could incorporate multiple dates of service.

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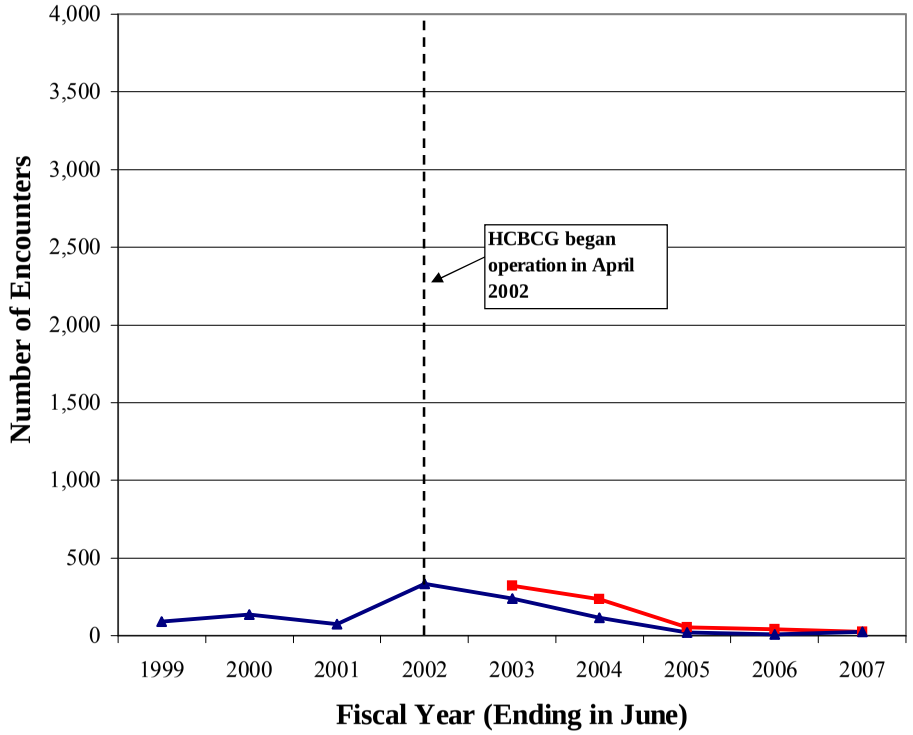
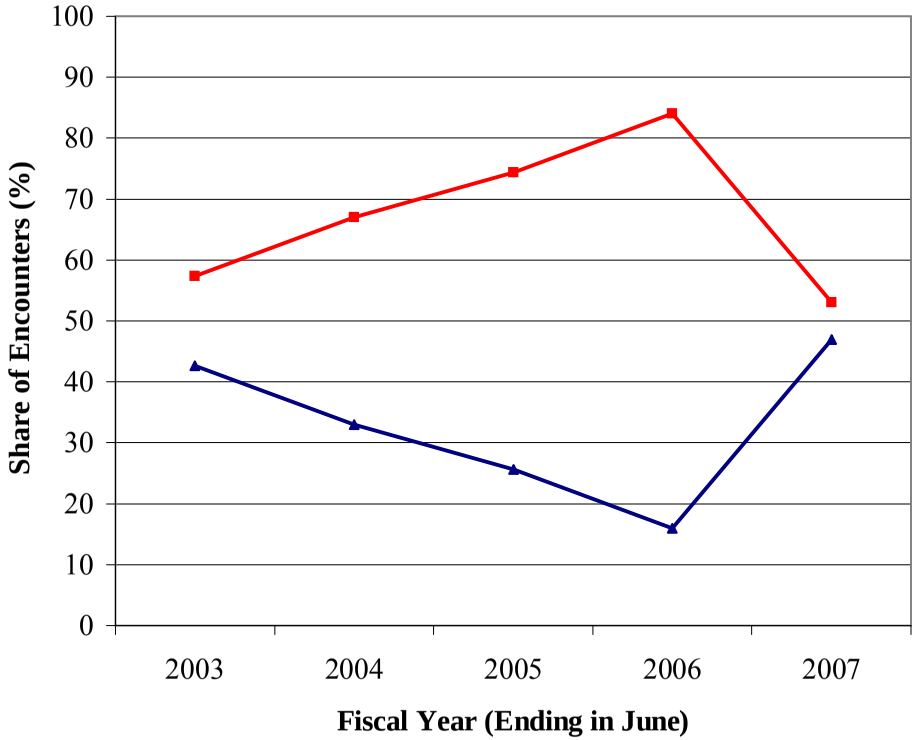
## Outpatient Pediatric Hematology-Oncology Encounters at KMCWC by Physician Group
## Other Non-Commercial Payors




Hawai'i Children Blood and Cancer Group ("HCBCG") — Kapi'olani Medical Specialists ("KMS")

Note: For data from 1999 to 2004, each outpatient encounter corresponds to a unique date of service. For data from 2005 to 2007, each outpatient encounter corresponds to an account, which could incorporate multiple dates of service.

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